1694

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# THE FAR EASTERN REVIEW

VOL. VI.—No. 12. MANILA, SHANGHAI AND YOKOHAMA, MAY, 1910.

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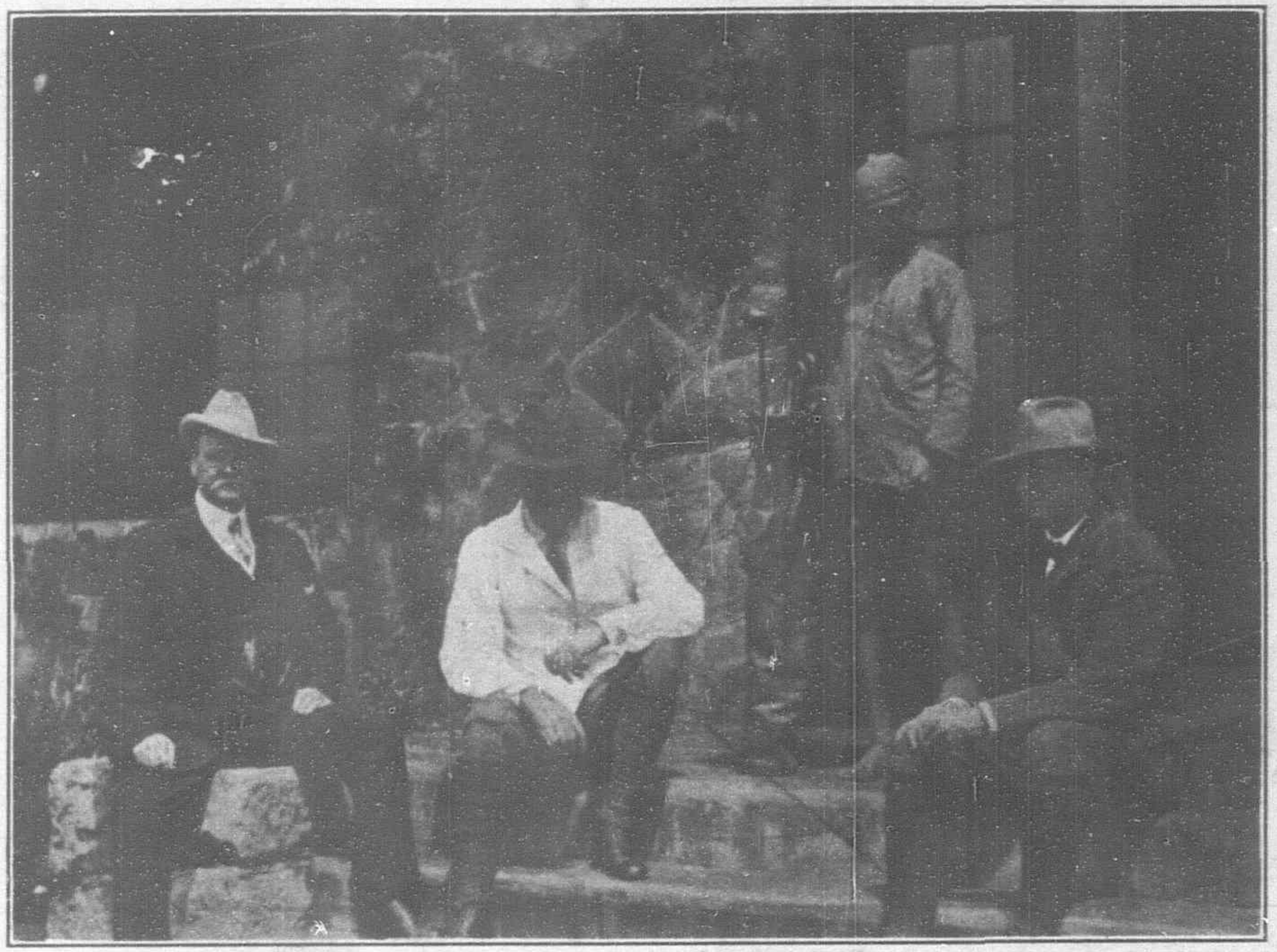
JUL 14 1910



FROM RIGHT TO LEFT:—HIS EXCELLENCY THE HON. W. CAMERON FORBES, GOVERNOR GENERAL PHILIPPINE ISLANDS; HORACE L. HIGGINS, ESQ., GENERAL MANAGER MANILA RAILWAY CO.; AND SIR CLIFTON ROBINSON.

## REVIEW OF PHILIPPINE RAILWAYS

## The North Britisher in the Far East

## Electrical Installation at Mukden

FROM LEFT TO RIGHT:—DIVISION ENGINEER WADE (DECEASED), MANILA RAILWAY CO.; HORACE L. HIGGINS, ESQ., GENERAL MANAGER, MANILA RAILWAY COMPANY; WILLIAM B. POLAND, ESQ., VICE-PRESIDENT PHILIPPINE RAILWAY CO.; AND LOOMIS F. GOODALE, ESQ., SUPERVISING RAILWAY EXPERT FOR THE PHILIPPINE ISLANDS

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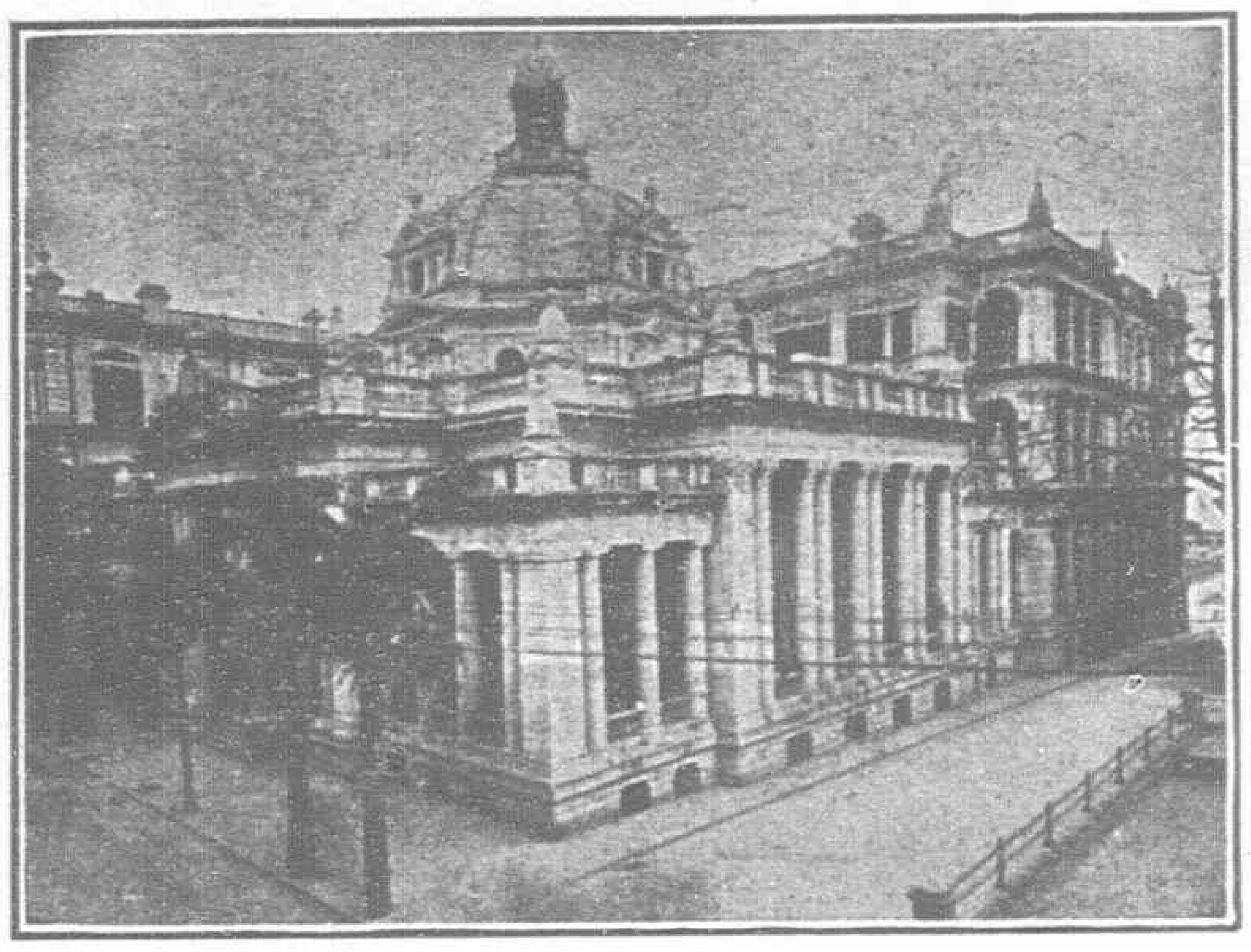

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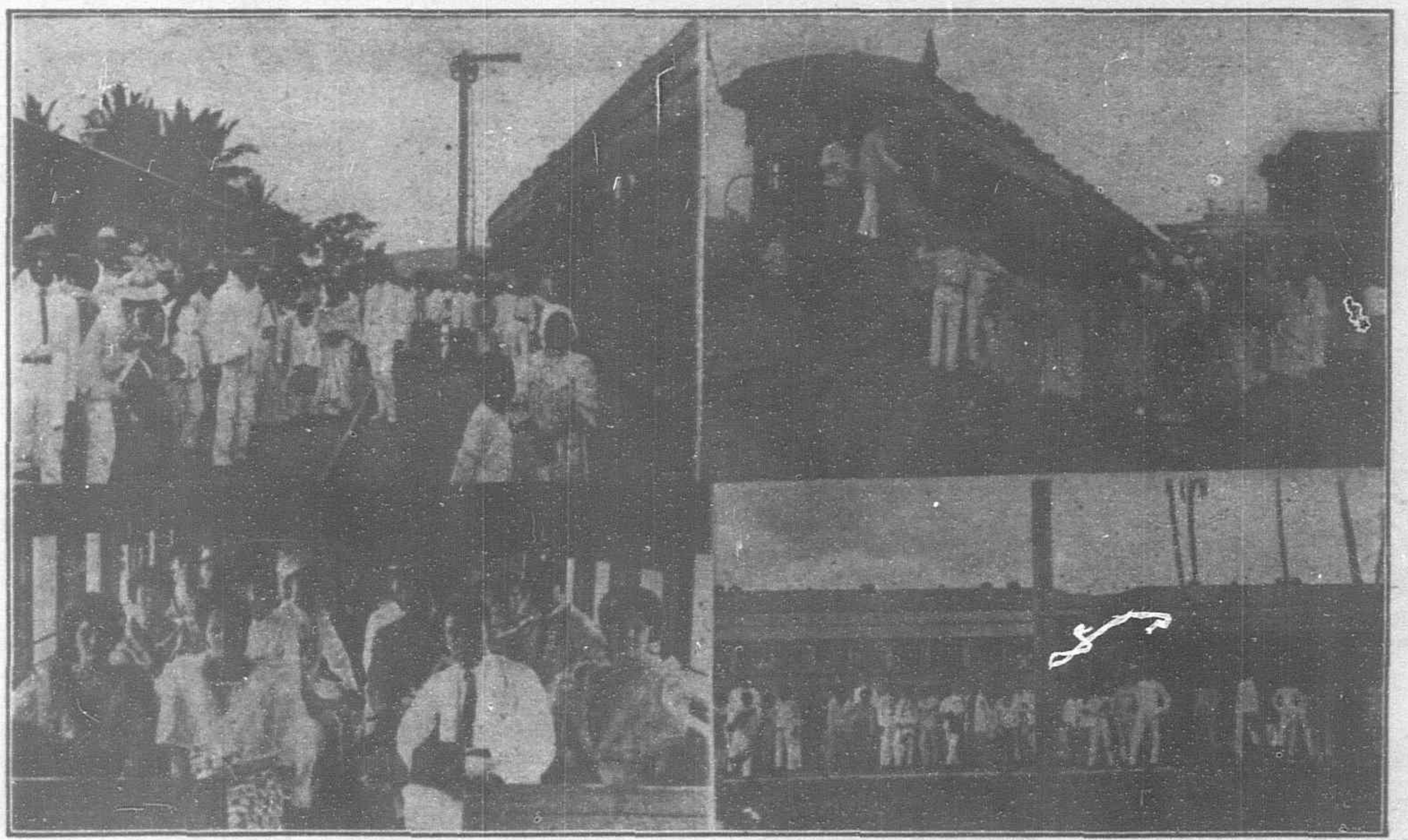
THE FAR EASTERN REVIEW
COMMERCE ◆ ENGINEERING ◆ FINANCE

VOL. VI. MANILA, P. I., SHANGHAI, AND YOKOHAMA, MAY, 1910 No. 12.

# THE PHILIPPINE RAILWAY CO.

When the bids were opened on December 20th, 1905, in response to the advertisement of the Philippine Government for bids on railway construction in the Philippines, among the three submitted was that of Messrs. J. G. White, Inc., of New York and Manila, representing a large syndicate of American capitalists. The bid presented had reference only to the railways proposed in Cebu, Panay and Negros and provided for a government guarantee of four per cent. As described in the advertisement, these proposed lines were as follows:



PHILIPPINE RAILWAY CO.—(1) TYPICAL FIESTA CROWD.—(2) REGULAR TRAIN AT CEBU STATION.—(3) TYPICAL GROUP OF UPPER CLASS FILIPINOS TRAVELING SECOND CLASS IN PREFERENCE TO FIRST CLASS.—(4) TYPICAL SECOND CLASS FIESTA TRAFFIC IN CEBU.

On the Island of Negros.—A line in the island of Negros from the harbor of Escalante on the North-East coast of said island, westerly, following coast line to Himamailan, a distance approximately of 100 miles.

On the Island of Panay.—A line from Iloilo in the Province of Iloilo and Island of Panay, in a Northerly direction, forking to the towns of Capiz and Batan, on the North-East coast of the Island of Panay, in the Province of Capiz, a distance approximately of 100 miles.

On the Island of Cebu.—A line on the Island of Cebu, running North from the City of Cebu to Danao, on the east coast, and South from the city of Cebu to Argao, on the east coast, with the option of a line across the island from Car-Car or Sibonga to the West Coast, and thence along the coast between Dumanjug and Barili, a distance approximately of 95 miles.

The syndicate represented by Messrs. J. G. White & Co. was incorporated under the title, "The Philippine Railway Company," and was composed of Messrs. William Salomon & Company, Charles M. Swift, Cornelius Vanderbilt, Messrs. J. G. White & Co., Inc., Heidelbach, Ickelheimer & Co., the International Banking Corporation and several other prominent financiers with Mr. William Salomon, Chairman of the Board of Underwriters.

The contract for construction was let to the firm of Messrs. J. G. White & Company, Inc., one of the largest contracting firms in the world, and their representative, Mr. E. J. Beard, in the capacity of Chief Engineer, arrived in the Philippines in June, 1906, to take charge of location and construction, in which capacity he remained for about two years.

Five locating parties were organized and began work at once on the three islands and after a strenuous experience in overcoming the many serious obstacles presented by the wild interiors, especially of Panay and Negros, concluded their work of final location, but only after 1,950 kilometers of survey line had been run. It must be remembered that the lines proposed penetrated jungle and wild lands not before inhabited, lacking roads, bridges or even trails in many sections.

Cebu Island, located about 400 miles south of Manila, has an area of 1762 square miles, with a population of 590,000. Along the line of railway there is a population of about 310,000 or about 5,158 to the mile of line. The density is about 515 in the territory feeding the line.

Cebu, the principal city, has a population of 56,000, and the trade of this port aggregated 43,000,000 pesos for the year 1907. Other towns with populations are: Danao, 16,000; Talisay, 10,000; Naga, 12,000; Carcar, 25,000; Sibonga, 18,000; Argao, 16,000. The island produces hemp, tobacco, sugar, copra, corn and rice. Indeed, the export of hemp from Cebu makes it the leading shipping port for that product in the Philippines.

The Island of Panay lies about 300 miles south of Manila with an area of 4,600 square miles and a population of 745,000. The line of railway serves a population of 315,000 or 3,500 a mile with a density per square mile of 200. The land is fertile along the railroad and most of it is under cultivation. The principal products are rice, copra, tobacco, sugar, hemp, native cloths and dried fish. Iloilo

*(Continued on page 546.)*

THE FAR EASTERN REVIEW

GEO. BRONSON REA, M. E.
PUBLISHER

WILLIAM CROZIER, Editor.

COMMERCE :-: ENGINEERING :-: FINANCE

A Monthly Review of Far Eastern Trade, Finance and Engineering, Dedicated to the Industrial Development and Advancement of Trade in the Philippines and Far Eastern Countries

PUBLICATION OFFICE:
MANILA, PHILIPPINE ISLANDS

CHINA OFFICE
WHITEAWAY LAIDLAW BUILDING
Shanghai

UNITED STATES REPRESENTATIVES:
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ADVERTISING RATES will be mailed on application.

Communications pertaining to the Editorial Department should be addressed to THE EDITOR.

ENTERED AT POST OFFICE,
CLASS MATTER.

MANILA, SHANGHAI, AND YOKOHAMA, MAY, 1910

CONTENTS

| | Page |
|---|---|
| The Philippine Railway Company | 543 |
| Editorial | 544 |
| H. E. Chen Kui Lung, Viceroy of Chihli | 545 |
| The Manila Railway Company | 550 |
| The Manila Electric Railroad & Light Company | 554 |
| The Manila Suburban Railway Co | 555 |
| The Tarlac Railway Company | 556 |
| Philippine Railways for 1909 | 557 |
| The North Britisher in the Far East | 563 |
| Baldwin Locomotives for the Tientsin-Pukow Railway | 568 |
| Locomotives for the Philippines | 569 |
| Mukden Electric Light Works | 570 |
| Far Eastern Railway News | 572 |
| Philippine Mining News | 574 |
| Contracting News | 574 |
| Engineering, Construction, Commercial and Financial News | 575 |

## THE DEATH OF HIS MAJESTY, KING EDWARD VII

The sad news from London, under date of May 7th, announcing the death of His Majesty after but three days' illness, came as a shock not only to all British subjects throughout the Far East but to citizens of all nationalities. It was known that the King was indisposed, but none realized the seriousness of his condition. Indeed he may be said to have died in the harness discharging his many duties up until a few hours previous to his passing out. Evidences of the love and respect in which the popular monarch was held were everywhere marked by the tributes paid to his memory wherever two or three were gathered together during the last week. Memorial services have been arranged in every port in the Orient. In Manila the Americans will join with the British colony in paying their respect to the memory of the dead monarch.

It may well be said that the late King enjoyed the love and admiration of all his subjects, and for a life service in the interests of peace he will go down in history as Edward the Peace-Maker.

The sympathy of the civilized world goes out to the bereaved Queen-Mother whose many graces have endeared her to all peoples, and to Their Majesties King George and Queen Mary.

## THE CHINA ASSOCIATION AND THE RAILWAYS

In its annual report the China Association devotes some space to comment on the railway situation and does not incline to support the view that the "Pukow terms" give adequate guarantee of the proper expenditure of foreign loan funds and bases its attitude on the incidents in connection with the scandal on the German section of the Tientsin-Pukow line. With reference to the attitude of the Chinese to foreign loans the report states:

"The main point of interest is the influence which has been exercised over railway development through the remarkable growth of what is known as the 'China for the Chinese' movement, and the resistance which the provincial leaders of that movement oppose to foreign enterprise in the Empire, despite concessions obtained through Peking. The movement is a remarkable one; no doubt it appeals, and is meant to appeal, to the people as patriotic, but more probably it has its foundation in the desire of its promoters to retain for themselves the opportunities of illicit gain which attach to native-managed enterprises. Anyway, it would seem to be certain that this 'Revolt of the Provinces' (as it has come to be called) finds its strength, in this as in other directions, in a provincial appreciation of the weakness and incapacity of the Central Government, and in the belief that the orders of Peking may be disregarded with impunity. There can be little doubt that the 'loan terms,' which foreign lenders to China have found it necessary to impose for their own protection, are resented by a large and increasingly powerful section in China. There ought not to be any reason why China should not be freely offered foreign capital for the exploitation of her enormous potential wealth in the same way as money is lent to other countries; but the Government of China, being what it is, simply compels lenders to safeguard themselves through 'loan terms' which under other conditions would be unnecessary."

This indicates a growing appreciation of the rapidly changing disposition of the Chinese in their relation to foreign lenders. While the Association is not ready to approve of the Pukow terms, yet the report does imply that future agreements must be more liberal in their character before they receive the endorsement of that class of Chinese who are rapidly being recognized as "increasingly powerful" in the direction of Chinese affairs. Just what concession the Association would recommend does not appear, but we are led to gather therefrom that the present prospect is not conducive to the arranging of a loan on the old loan terms and that some adjustment will be necessary in future if foreigners are to participate in the railway program.

It might be said that while on the Northern Section of the Tientsin-Pukow some irregularities have been noted, yet we have not heard that there is any danger of the loan being endangered. It is also true that irregularities are not confined to the Chinese, yet we understand that the Chinese have been as prompt in punishing the offender as have any foreign government confronted with a similar situation.

We have reason to believe that much of the difficulties in the way of arranging foreign loans in China might be the more easily adjusted if more consideration were given the point of view of the borrowing nation. The hard and fast terms heretofore required have made an undesirable impression and this impression has been developed into a serious prejudice by widespread exaggeration and misrepresentation.

To overcome this, the open mind on either side must characterize the conduct of negotiations, and by thus establishing a basis of mutual confidence, many obstacles, now apparently unsurmountable, would disappear.

The Chinese have asked to be recognized as a responsible nation and to be permitted the privilege of expending money borrowed and for which is given adequate security, in their own way. They can point with some pride to not a few success in railway building accomplished without foreign supervision of expenditure and it would seem that this should entitle them to a measure of consideration, the refusal of which must undoubtedly result in widespread and continued resentment.

## PHILIPPINE ROADS AND RAILWAYS

The program of development in the Philippines since American occupation includes one of the most extensive of campaigns to bring the most isolated section of the islands within reach of a market for its products. This involves the construction of roads of permanent character throughout the provinces and connecting lines of railways leading to Manila on the Island of Luzon while the islands of Cebu, Panay, and Negros are also being provided with railways running through the fertile districts and bringing the agriculturalists within easy touch with the ports.

When the islands were ceded to the United States by Spain the only railway operating was that of the Manila and Dagupan which runs through one of the richest sections of Luzon. It became apparent to the Philippine Government that little progress could be made in developing the country without additional lines giving the producer easy access to a market. And to make it possible for outlying sections to enjoy the benefit of railways, it was necessary to construct a comprehensive system of highways. According to the figures given out recently by Mr. Charles M. Pritchett, chief road inspector, the nucleus of this gigantic system is represented by about 9,000 kilometers of permanent roads to cost, approximately, ₱120,000,000. The Bureau of Public Works is expending over ₱5,000,000 annually in the construction of permanent roads and bridges and it is not improbable that this annual amount will be increased. Of the money thus expended the Insular Government furnishes about ₱1,500,000 and the provincial and municipal governments the balance annually.

The Philippine Government railway program includes a net work of railways throughout Luzon that will leave few agricultural districts without ample means of transportation. The same might be said of the Visayas. In order that sufficient capital might be available for this important work the Insular Government authorized a guarantee of four per cent. on railway bonds to the amount of $30,000,000. This guarantee was first made in connection with the lines of the Philippine Railway Company in the Visayas, but last year under a new arrangement with the Manila Railway Company who secured the concession for the lines in Luzon, the government guarantee of interest on bonds was extended to some of them also. In all, the Philippine Railway Co. concessions cover approximately 368 kilometers and the Manila Railway Company 1,355 kilometers, so that when these lines are completed and operating there will be about 1700 kilometers in operation.

Most satisfactory results have already been noted where new railway lines are operating. Many new tracts of country along them have been opened up, and what was previously jungle and waste lands are now producing abundantly. In many outlying sections where formerly the native found it impossible to market his produce at a profit for lack of roads and transportation, there was little inducement to industry. Now this isolation is being overcome and the native farmer enjoying a market, is doubling and trebling his crops. In Negros and Panay the area of sugar lands in process of development through which the Philippine Railway lines pass are probably the most desirable in the world. And in Cebu there has been noted already a marked increase in product and indications of greater activity in agricultural pursuits.

Taken altogether, the road building and railway program in the Philippines is one of the greatest importance and no one has greater interest in its early realization that His Excellency, the Governor-General. He has endeavored in every way to encourage intercommunication by land and sea and under his administration there is reason to believe that not only will the present plans be realized but that additional lines will be constructed to meet the growing demands of the country which is now rapidly responding to the policy of a liberal Government.

## H. E. CHEN KUEI-LUNG, VICEROY OF CHIHLI

Few, if any, of the prominent officials of China may point to a more rapid advance in rank and distinction than H. E. Chen Kuei-Lung, the newly appointed viceroy of Chihli. It may be said that his official career began with his appointment as Vice-Governor of Peking in June, 1900, and his promotion in September of that year to the post of Governor. This was followed in May, 1901, by his appointment to the post of Commissioner of Finance in Honan which lasted but seven months when he undertook the duties of Director General of Grain Transport. This position occupied his attention until April, 1903, when he received his first appointment as provincial governor, assigned to Honan with which province he had been identified more familiarly than any section of the empire. In February, 1906, he was appointed to the post of Governor of Kiangsu and in September, 1907, was made Governor General of Szechuen. He did not proceed to this post and was transferred in March, 1908, to the post of Viceroy of Hu-Kuang. He remained in this capacity until appointed to his present position, the important post of Viceroy of Chihli.

Little seems to be known of the new viceroy beyond his rapid rise in ten years of official life from the rank of Vice-Governor of Peking to one of the most important positions in the imperial gift. There is every reason to believe that he enjoys the confidence of Peking and that in placing him in control of the destinies of Chihli, the Imperial authorities believed that he was the man best equipped among those oficials available to carry out the Imperial wishes.

It might be said that the Viceroyalty of Chihli has never been a bed of roses. It has meant the blasting of not a few careers that looked as bright as that of H. E. Chen Kuei-Lung upon appointment. A successful Viceroy of Chihli has little in the future to look forward to and too great success in that position has its dangers as some are in a position to testify. The new Viceroy, however, has not yet had much opportunity to demonstrate his adaptability, but, from indications, it is his purpose to master the position and apply his best effort to the solution of the many problems that confront him.

Upon his appointment he proceeded to Peking and outlined a plan of administration that appears to have received the approval of the Prince Regent. His personality seems to have made a favorable impression in the capital and there is no reason to doubt his success if these conditions continue. We are informed that when the news of his appointment was received by the people of Chihli there was much shrugging of shoulders with apparently no reason beyond the fact that a change in the Viceroy's office does not tend to encourage a feeling of security among the subordinates. This feeling seems to have been allayed and it may be that the new Viceroy's announcement that he would make no changes in the personnel may have had something to do with the change of heart.

H. E. CHEN KUEI-LUNG, VICEROY OF CHIHLI, THE METROPOLITAN PROVINCE

And yet His Excellency had in view a policy of curtailment that gave every evidence of making him unpopular. Fortunately he carried out his plan of amalgamating bureaux and abolishing useless divisions in a manner that showed unusual capacity and tact. For instance, the special bureaux established during the Boxer troubles have been continued up to the present time, although they have long survived their usefulness. The new Viceroy began lopping off by abolishing the Bureau of Charity, the Bureau of Water Utilization, the Bureau of Construction, etc. Together with the amalgamation of a number of bureaux and sub-divisions, this retrenchment meant a saving of approximately Tls. 200,000. This meant the discharge of a large number of employees who had enjoyed the benefit of a place on the government payroll. In letting them out, he informed them that there were no funds to maintain them longer, but gave them the opportunity of attending the Institution for the Study of Constitution with an allowance of Tls. 16 per mensem.

We learn that when the new Viceroy had lopped off all the dead branches and exhausted all effort at retrenchment, he found that a large deficit remained. He no doubt believed that there was a limit set to reforms and retrenchments beyond which a new Viceroy should hesitate to go. He was already unpopular among a large class for his activity in this direction and he wisely placed his resignation in the hands of the Peking authorities. They refused to accept it which was practically an endorsement of his program. This is probably what he wanted. Now he is busy devising means to overcome the deficit and with the Peking authorities behind him there is little doubt that he will find means to do it.

A report from Tientsin is to the effect that the new Viceroy is using his good offices to arrange the settlement of the outstanding accounts held by foreigners against Chinese dealers and that there is reason to believe that this matter of vital importance to trade will be adjusted in the near future.

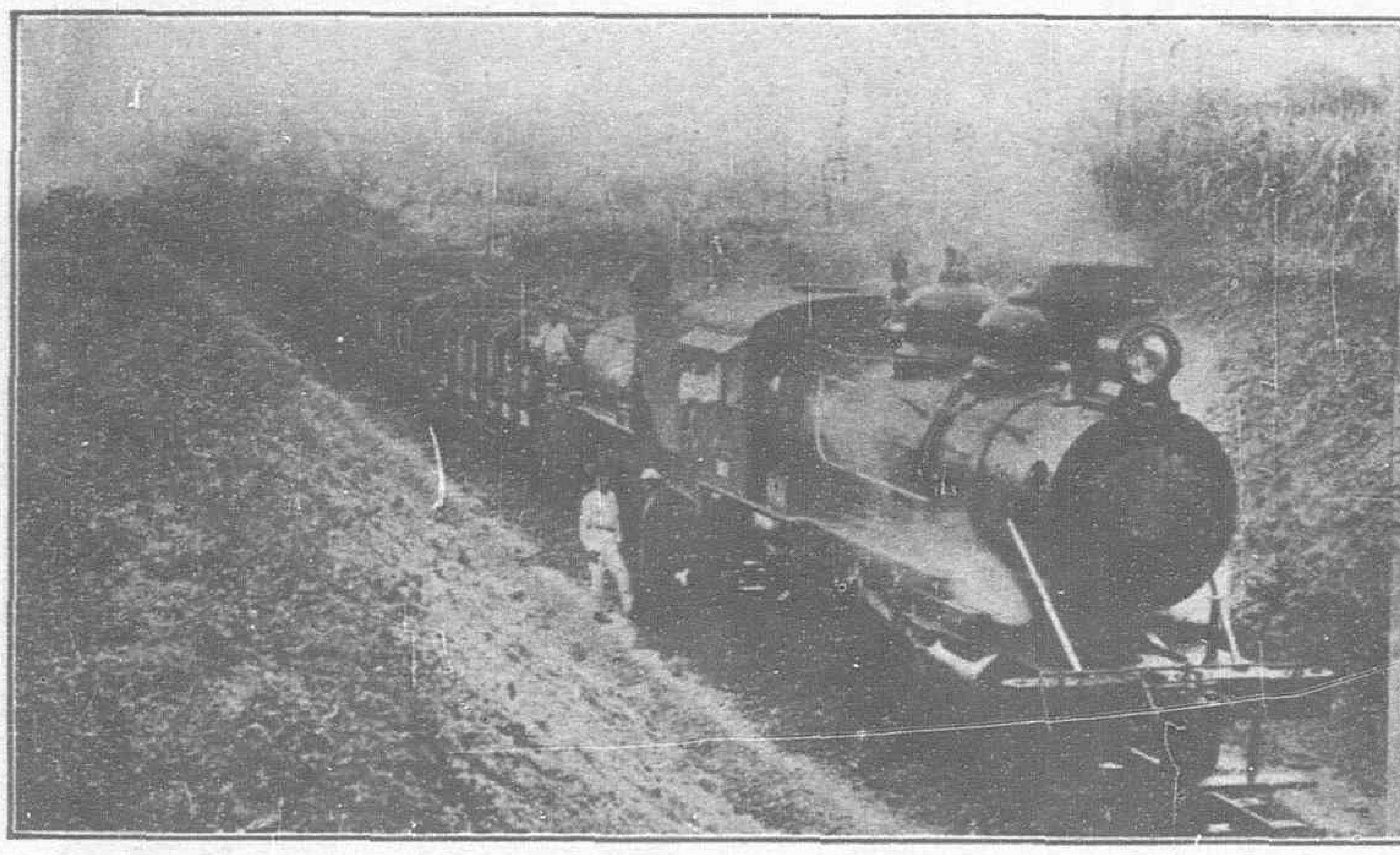
And so there is much to the credit of H. E. Chen Kuei-Lung, even during his first few months in office, and that he is establishing himself in a manner that will assure a successful term as Viceroy is generally admitted.

## THE PHILIPPINE RAILWAY CO.

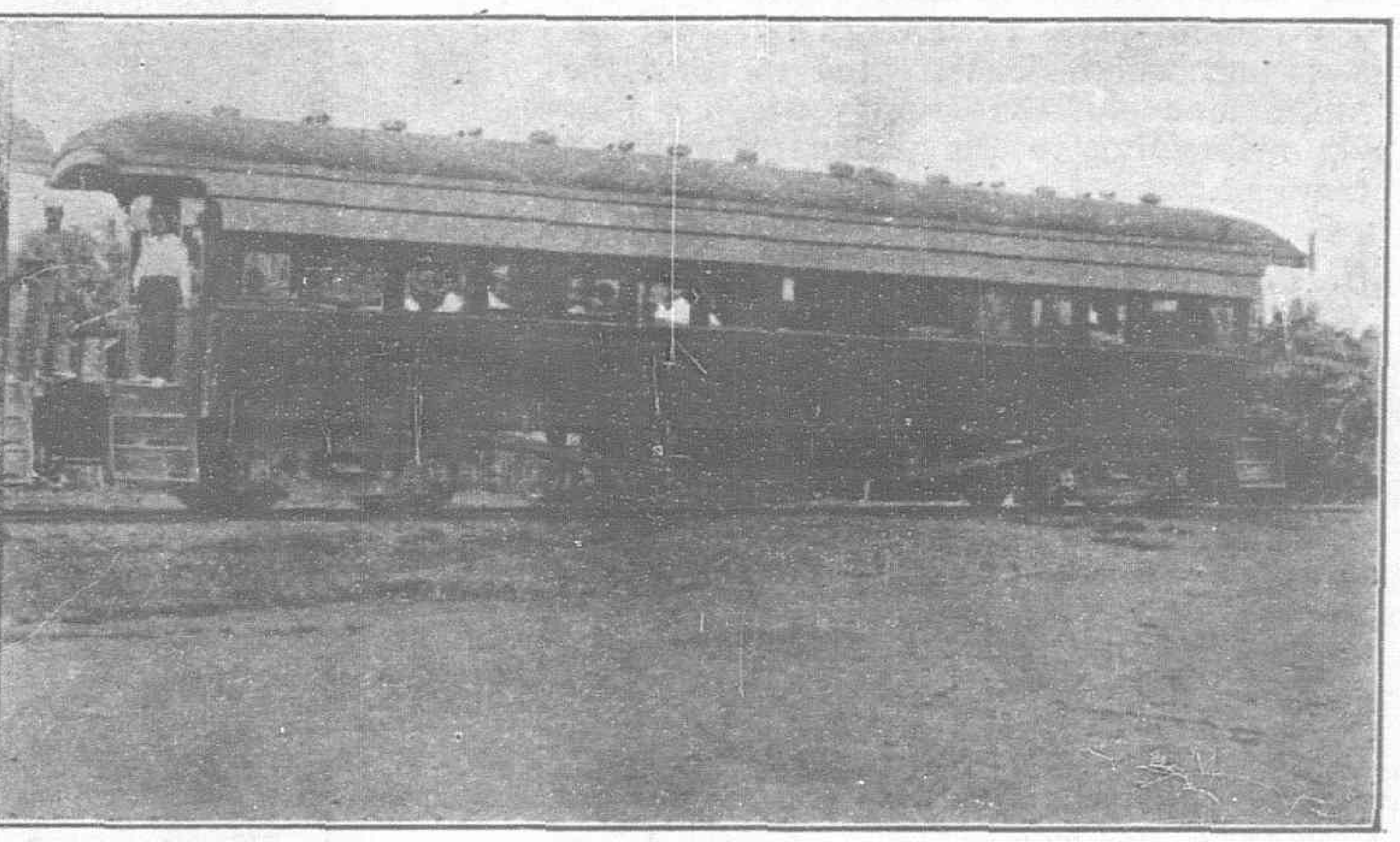
*(Continued from page 543.)*

with a population of 45,000 is the southern terminal of the line and is the largest sugar port in the Philippines. It is the outlet for not only all the sugar of Panay, but of the rich island of Negros as well. The Iloilo exports of sugar for 1908 amounted to 140,000 tons valued at ₱9,000,000 and in 1909 a great impetus was given the industry by the passage of the Payne Bill giving free entry to the American market for this product. Much land suitable for sugar cultivation has been made available by the railway and a large increase in production may be expected.

The following towns, with population given, are located on the line: Santa Barbara, 23,000; Pototan, 21,000; Passi, 7,600; Dumarao, 5,500; Dao, 6,700; Capiz, 18,500; Batan, 14,000.



PHILIPPINE RAILWAY CO.—BALLAST TRAIN OF 15 RODGER'S DUMP CARS AND CLASS "A" BALDWIN LOCOMOTIVE



COMBINATION FIRST AND SECOND CLASS COACH

In Negros, with an area of 4,881 square miles and a population of 460,000, the railway line will serve about 250,000 with an average of 3,720 per mile of road and a density of 150 per square mile of territory affected. The western half of the islands is the great sugar producing region of the Philippines and it is this section through which the railway will operate. The capital of Western Negros, Bacolod, is the terminus of the proposed line, and it will be connected with the terminus at Iloilo, in Panay, by a railway ferry over a distance of 25 miles. As Negros is without a good harbor, it is the purpose of the company to construct one at Bacolod. The following towns are along the route of the line: Bacolod, 15,000; Silay, 25,000; Saravia, 13,000; La Carlotta, 17,000; La Castellana, 5,000; Isabela, 16,000; Cabancalan, 24,000. The principal products are sugar, copra and rice and lumber. Large areas of sugar lands will be opened up by the railway and the production of sugar in the island, which is approximately 115,000 tons annually, should rapidly increase with improved transportation facilities and a permanent market.

The construction of the line in Negros will not include any heavy grading, but as there is a number of wide and deep rivers to cross, it will bring the cost up while the pier and breakwater work at Bacolod will add a heavy charge to construction of the line. Its successful operation will depend largely upon the development of the sugar industry. Definite location of the line has been completed but no construction work has been done up to this time.

The only change made from the route as described in the original concession is the elimination of the line along the North Coast of Negros from Escalante to Saravia and the addition of an extension from Himamailan southward to Cabancalan making in all a distance of 75 miles, instead of 100 as originally estimated.

*Cebu, Construction.*—Much of the grading on this line was exceedingly heavy, and this, with the large number of rivers and streams to bridge, made the construction very costly, although no engineering difficulties were encountered. The necessity of combating the floods of the rainy season had to be considered in the construction of bridges, and while many of the streams are insignificant in the dry season, during the heavy rains, they become swollen torrents. In all on this line the bridges aggregate over a mile in length, all built of concrete and steel and requiring over 20,000 yards of the former and 2,000 tons of the latter in their construction.

At sub-grade the standard width of the roadbed was built 14 feet on the shoulders with allowance for shrinkage and heavy rains. In conformity with the Philippine Government regulations the gauge is 3 feet 6 inches, as provided for all the railways in the islands. Australian sleepers were used in the early construction, but the native hardwood tie was later substituted and is now used exclusively by this company in all its construction. The sleepers are 5 in.×8 in.×7 feet and native hardwood is expected to last at least 15 years. The maximum grade is one per cent. and the maximum curvature six degrees. The construction over the swamps and low lying agricultural lands was in many places very costly as roadbed sank in some instances from five to eight feet. In all 1,860,000 cubic yards of earth were moved.

Ballast pits were located in the river beds and gravel used exclusively. The ballasting was expedited by a special dredge designed by Chief Engineer Beard to load the gravel from the pits to the ballast cars.

There are 22 station buildings divided into first, second and third class built of reinforced concrete and, indeed, in all the buildings concrete and steel were used as may be seen in the illustrations herewith. This class of permanent construction was believed desirable even at a much higher first cost in view of the serious deterioration caused by the climate and the activity of the white ant as well as the security from loss by fire.

Sixty pound steel was used for the entire length of the line with exceptions of 20 miles near Cebu laid with 70 pound steel. It was supplied by the United States Steel Products Company.

*Equipment.*—A and B type Baldwin locomotives furnished by the Baldwin Locomotive Company are in service. One is a 45-ton for heavy construction and the other 30-ton used for passenger and mixed traffic. A German locomotive is used for switching. The passenger coaches have a steel under frame and are equipped with complete Westinghouse

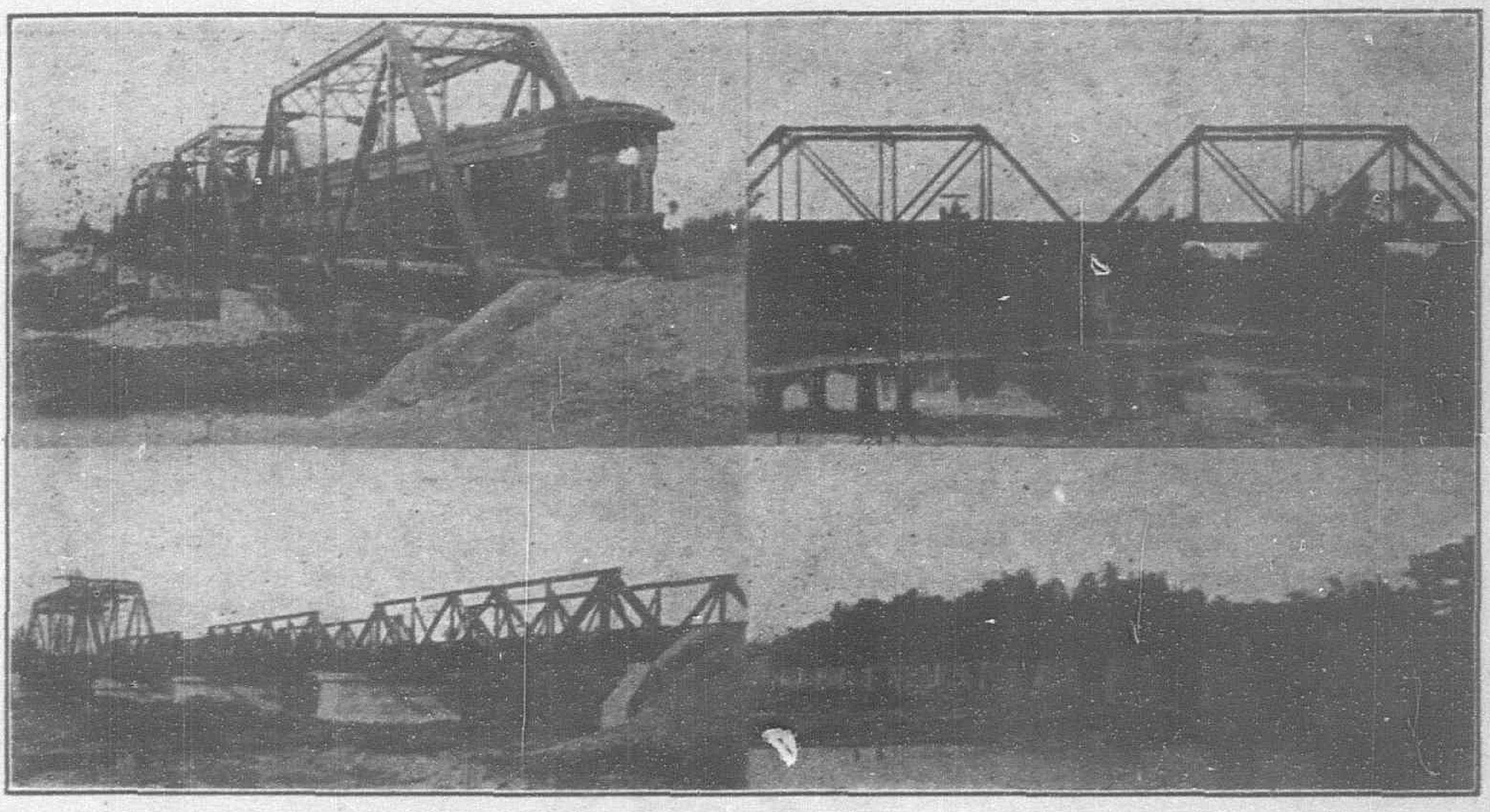
PHILIPPINE RAILWAY CO.—YOUNG MAGUEY PLANTS AND FIBER CLEANING MACHINE FURNISHED FREE BY COMPANY TO ENCOURAGE INDUSTRY. MACHINE MOUNTED ON FLAT CAR AND MOVED FROM POINT TO POINT

Airbrake and signals. The first class and parlor coaches are finished in teak and the second class in sheathed yellow pine. The freight car equipment includes ten and twenty ton steel frame convertible from flat to box, thirty ton wooden ballast cars and forty ton wooden construction flats, all equipped with conductor's air, M. B. C. Standard couplers and air-brakes. The telegraph lines are strung with no. 10 copper wire with selector telephones for dispatching, and stations are equipped with train order signals. Dispatcher's block system is used in operating the line. The terminal yards are at Cebu and a double track extends tose the wharves along the a wall for transfer of freight directly on board vessel. The terminal buildings include machine and woodworking plants, power house, roundhouse, coach sheds, lumber sheds, turntables, freight and office buildings, all constructed of reinforced concrete.

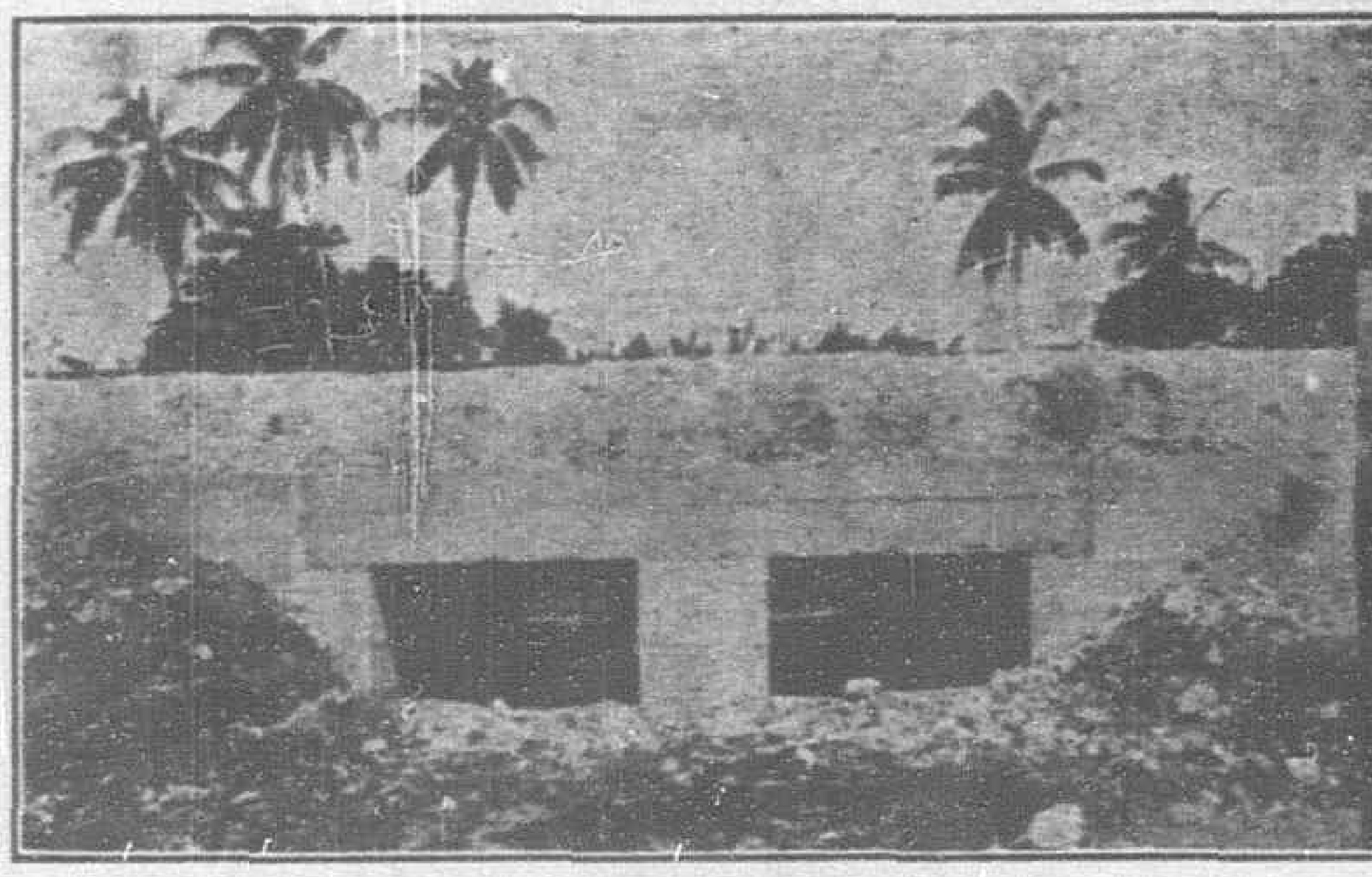
*Operation.*—For maintenance of track Filipino labor is utilized under the supervision of white foremen. The mechanics in the shops include natives and Chinese working under white supervision. Filipinos are also employed for clerical work as well as agents and operators, and the management have found them very satisfactory in each of these capacities. The conductors and engineers are Europeans, but it is expected that Filipinos will be substituted, with the exception of a few Europeans retained as instructors. As evidence of the accuracy of the native operators, the Standard Code of the American Railway Association is used in dispatching by telephone, and so far there has been no complaint as to their ability or adaptability to work accurately with great dispatch. There are eight regular mixed trains, four daily in each direction, making from 25 to 30 miles an hour between stations.

The railway in Cebu is enjoying a steady increase in both passenger and freight traffic as the value of rapid transit is being appreciated by the natives. The lack of work animals resulting from rinderpest and surra has crippled the native farmer and his earning capacity is greatly curtailed. The soil is only tilled to a limited extent.

The Philippine Railway Company is endeavoring to encourage the natives of Cebu in the cultivation of maguey and, cooperating with the Philippine Agricultural Bureau, has already distributed over 2,000,000 plants free of charge. In addition to this the company has a maguey stripping machine which is installed on a flat car and moved from point to point to strip the plant without charge. The result has been great interest among the native farmers in this industry and it is expected that the export of this product alone will result in many millions of dollars coming into the province. An effort is being made to induce the farmer to undertake the very best methods of culture and already the improved returns received on the better quality of fiber has impressed the planter with the advantages of giving his best attention to the growing plants. The development of the sugar and tobacco growing industry in Cebu gives promise of large returns, and with better transportation facilities and prices, the native will be encouraged to do his share. In the meantime an effort is being made to increase the supply of work animals with government aid and a well organized campaign against

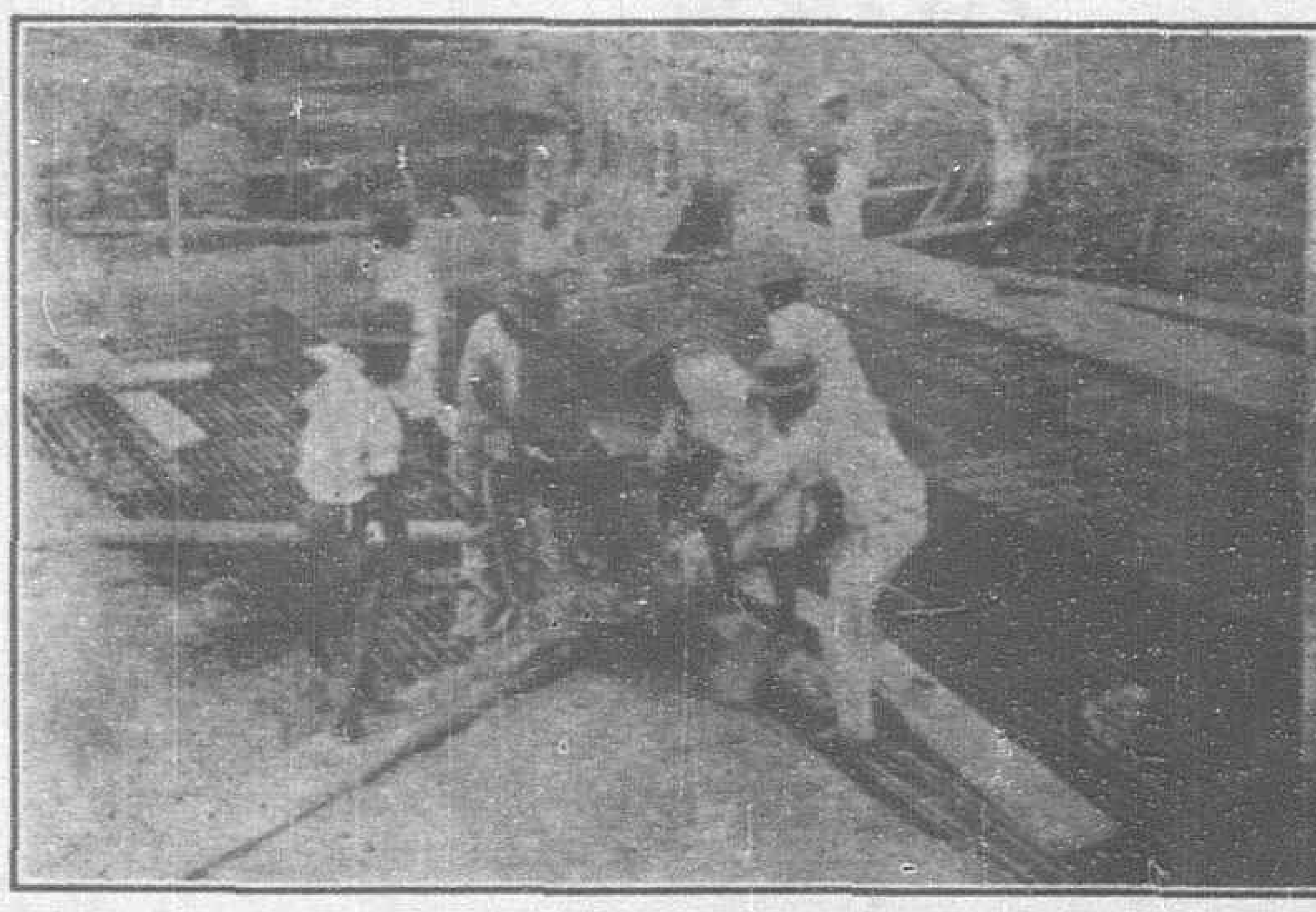


PHILIPPINE RAILWAY CO.—TYPES OF BRIDGE CONSTRUCTION IN CEBU AND PANAY:—(1) STANDARD 100-FOOT SPAN BRIDGE—(2) POTOTAN RIVER BRIDGE TWO 100-FOOT SPANS—(3) COT-COT RIVER BRIDGE NORTH OF CEBU—(4) APPROACH TO JALAUR RIVER BRIDGE RAISED ON ACCOUNT OF HIGH WATER



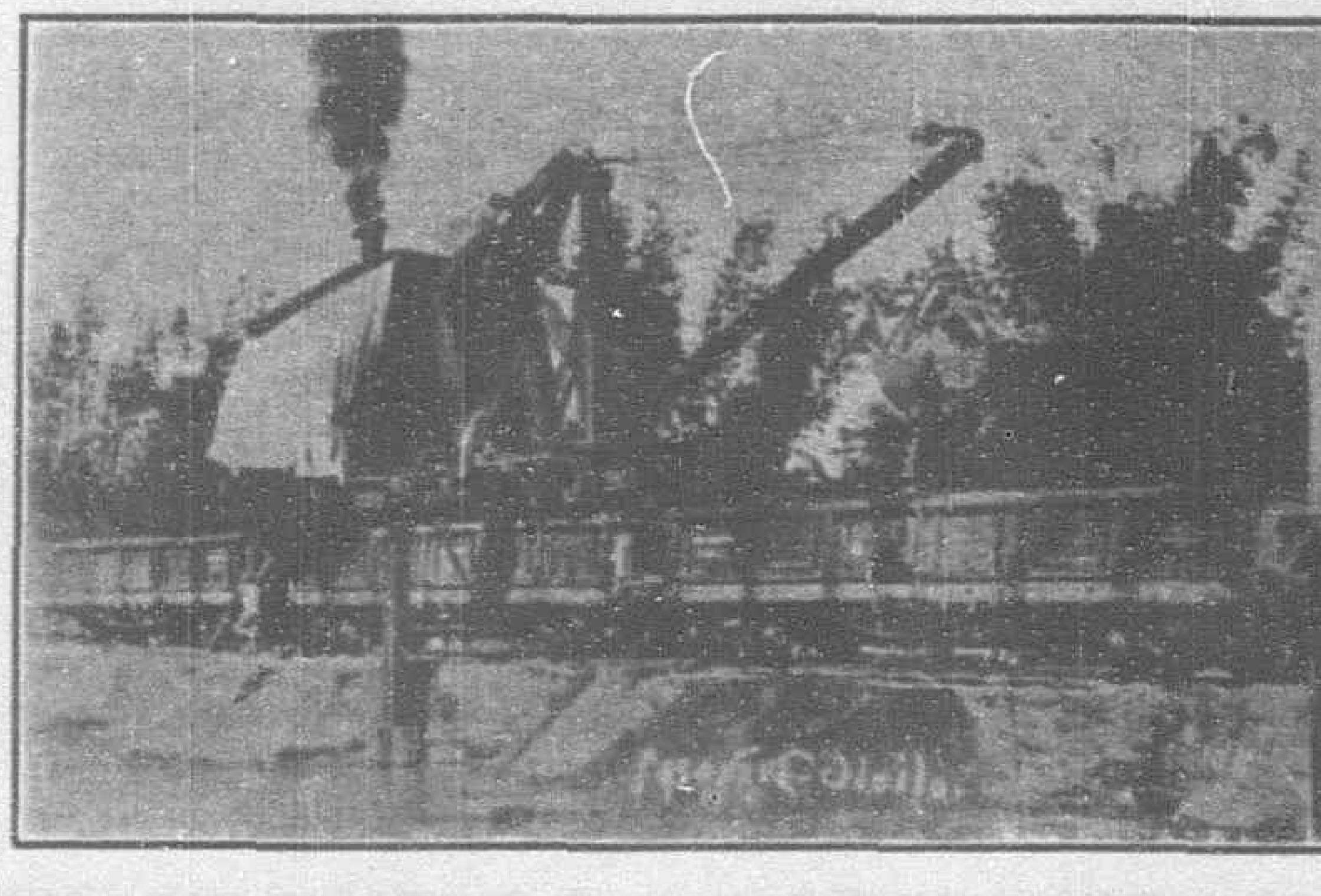
PHILIPPINE RAILWAY CO.—STANDARD DOUBLE 16-FOOT REINFORCED BOX CULVERT

BRIDGE IN CEBU SHOWING ENLARGED FOUNDATIONS ON ACCOUNT OF SOFT BOTTOM

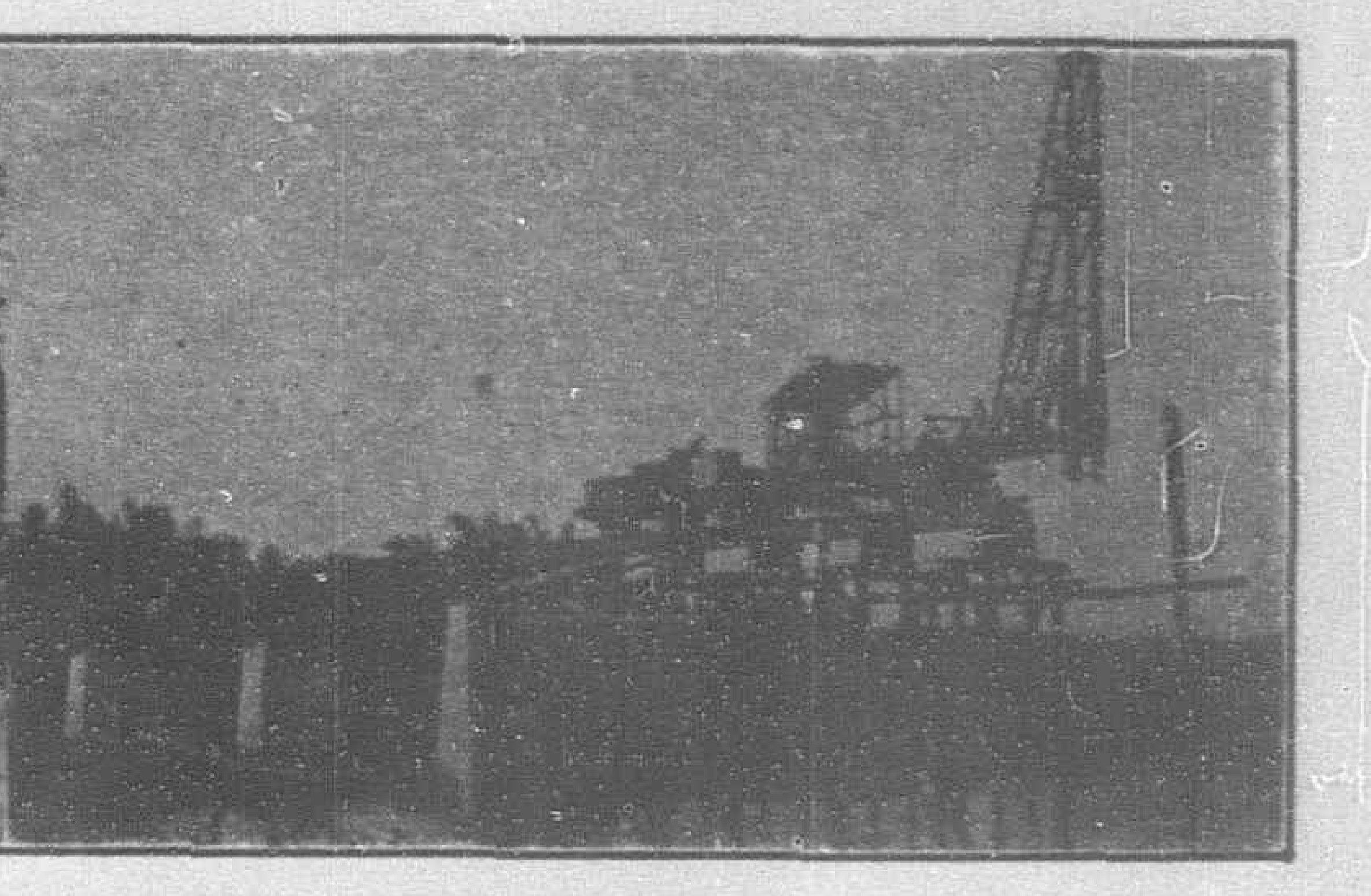


PHILIPPINE RAILWAY CO.—REINFORCED DECK BOX FOR CULVERT IN PANAY

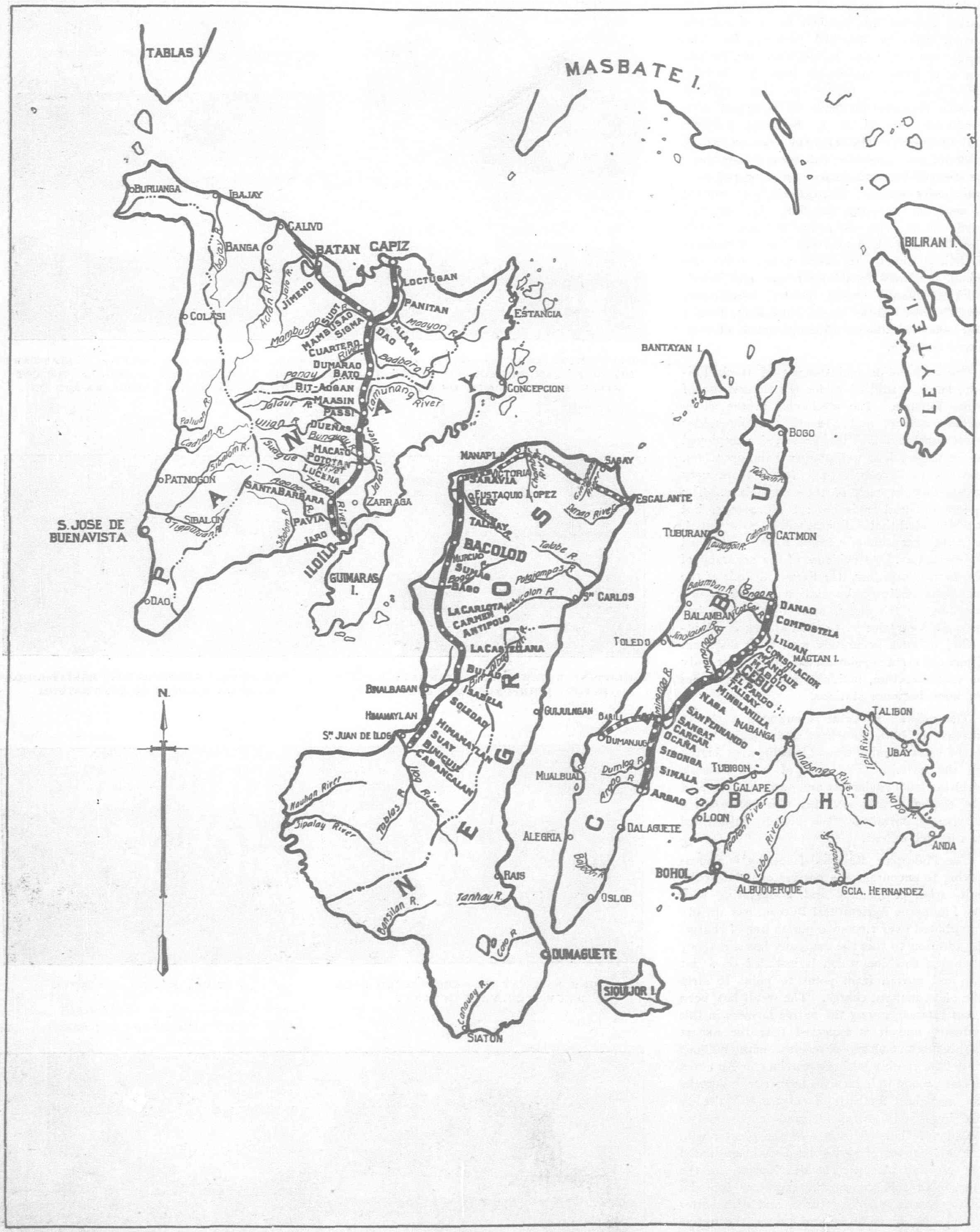
NATIVES MIXING CONCRETE



PHILIPPINE RAILWAY CO.—LOADING GRAVEL FOR BALLAST FROM SANTA BARBARA RIVER, PANAY



DRIVING FALSEWORK AT JALAUR RIVER, PANAY

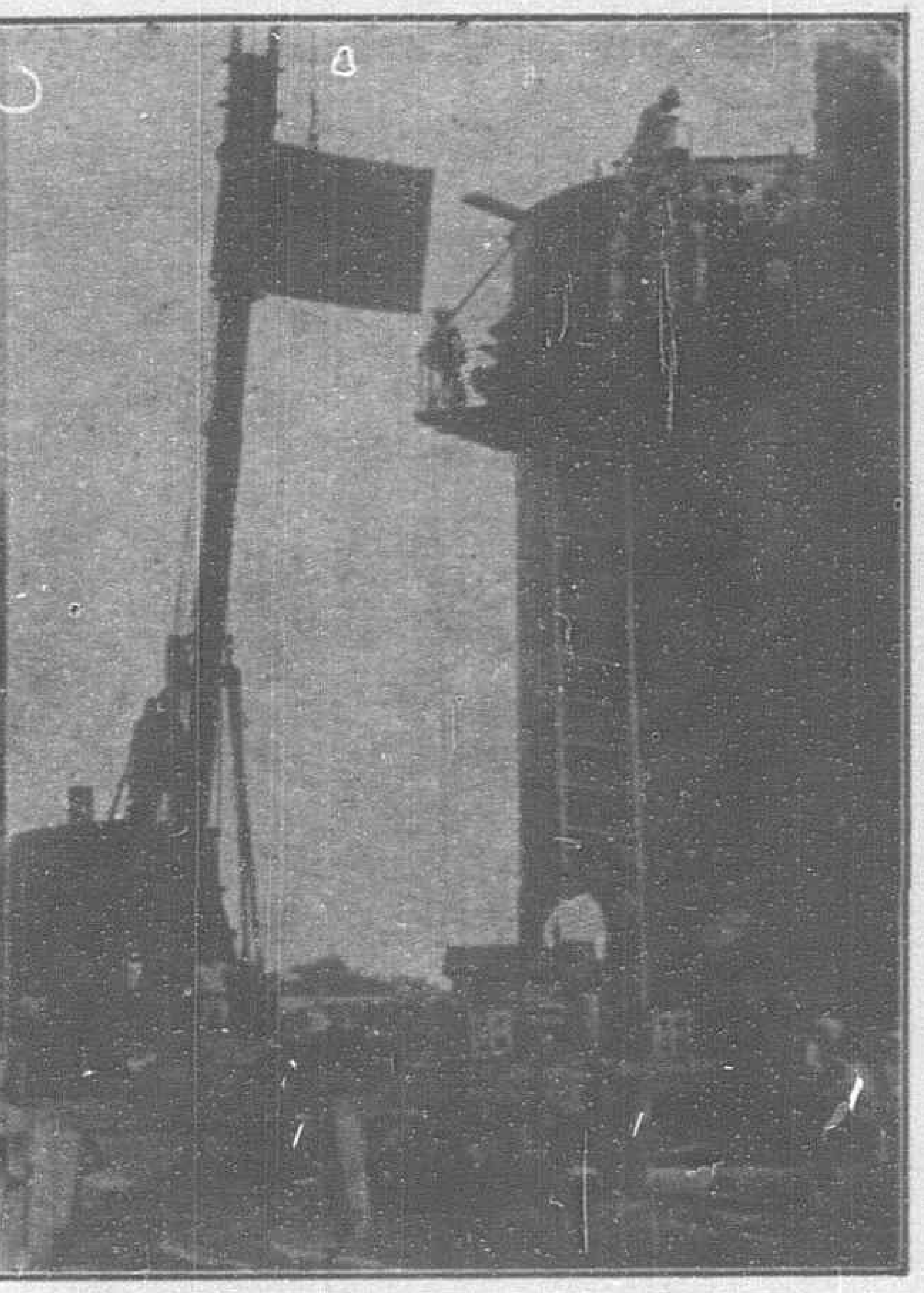


*Courtesy Manila Bulletin.*

THE VISAYAN GROUP SHOWING LINES OF THE PHILIPPINE RAILWAY COMPANY, AS ORIGINALLY PROPOSED.—THE SECTION BETWEEN SARAVIA AND ESCALANTE IN NEGROS IS NOW ELIMINATED rinderpest is to be maintained as evidenced by a liberal appropriation made for this purpose for the year.

*Panay Construction.*—The construction in Panay is progressing rapidly and it is expected that the line will be opened from Iloilo to Capiz by June, this year. The work of construction has been conducted from both ends simultaneously. The line from Iloilo to Passi, about 34 miles northward, is across an alluvial plain intersected by a few heavy ridges, the latter making very heavy work. From the latter point to Dumarao the water shed is crossed that practically divides the island of Panay into two great fertile plains. The southern approach to the summit is a maximum grade of one per cent. and on the north approach the grade is one-and one-half per cent. for about a mile. The balance of the line from the watershed to the northern terminus at Capiz is across level country interrupted y irregular ranegs of hills. The construction in the flat country is exposed to serious floods during the rainy season and it was necessary therefore to make fills ranging from fifteen to twenty-five feet. This, together with the heavy work in the hills and the many rivers to bridge, brought the cost up very high. The total grading is estimated at almost 4,000,000 cubic yards and the steel and trestle bridges aggregate in length over one and three-fourths miles. The Panay river bridging aggregated in all 2,250 feet of steel and approaches. In all in Panay when the line is completed there will have been used over 3,000 tons of steel and 45,000 cubic yards of concrete construction.

PHILIPPINE RAILWAY CO.—ASSISTANT CHIEF ENGINEER HARRIS' GASOLINE MOTOR CAR



ERECTING WATER TANK IN CEBU YARD

The main terminal is at Iloilo, and at this point the company has secured a site on the waterfront for large warehouses with a depth of water alongside of 24 feet so that freight may be transferred to vessels at minimum expense and maximum expedition. The site was practically an island forming one bank of the Iloilo River and much of the ground had to be filled in. The foundations for these buildings were laid on reinforced concrete piles. The central machine shops, etc., for not only Panay, but the Negros division as well, are located here and approximately 750,000 pesos is the estimated expenditure including warehouses and wharves. The shops are so equipped that the company can build its own locomotives if necessary.

*Cebu and Panay Equipment.*—In all on the two divisions there are 14 locomotives, 32 passenger cars, and 184 freight and work cars.

*Operation.*—The same standards are maintained as in Cebu as well as the character of the skilled and unskilled labor.

*Future Prospects.*—As in Cebu, but perhaps more serious, has been the damage to industry by the rinderpest and surra among the stock, and at the present time many formerly prosperous communities are suffering from extreme poverty. From statistics available not over one-fifth of the rich improved lands are now under cultivation and, instead of a steady development of wild lands and the annual increase of the area under culture, many sections do not produce one-tenth of the returns of say a decade ago. Vice-President Poland is quoted with reference to Dumarao, a town about 45 miles north of Iloilo, as an example of the disaster that has blasted the producing capacity of the communities in Panay. This town in 1898 had 650 head of horses, 6,000 head of cattle and 3,550 head of carabao. That year the town produced 400,000 cavans of palay, over 100 tons of tobacco, 15,000 piculs of sugar and a large quantity of hemp. At the present time the town does not possess a horse and the carabao and cattle number 320 and 14 respectively. The production of palay does not now exceed 60,000 cavans and the hemp, tobacco and sugar product is practically nil. The company is assisting the native to develop this section by distribution of seed and encouraging industry. In this the Philippine Government is giving its generous support. With work animals or machinery Panay province would become one of the most prosperous in the archipelago. Iloilo province alone heretofore exported about 230,000 tons of rice annually, last year over 21,000 tons were imported. It should not only supply the domestic consumption, but the shortage in the surrounding islands instead of that supply coming from the China coast. There is a fertile plain thirty miles in length suited to the cultivation of rice, sugar, tobacco, corn, etc. Most of this area can be cultivated by machinery. The native is still using the crudest methods of farming and the antiquated mills available make it impossible for him without money to secure from the land over four per cent. of what might be realized with more modern machinery and methods.

Once the country has attracted the necessary capital for the cultivation of sugar and tobacco so that the greater part of the fertile land in the island is producing, an era of prosperity heretofore undreamed of will be the portion of the natives of this rich island. And with the great problem of transportation solved by a modern railway tapping all the most productive country, this future cannot long be withheld.

During the last few months many capitalists have become interested in the sugar and tobacco industry in the islands and there is promise that Panay will receive her portion of attention in view of the fertility of her soil and the adaptability to the production of these two staple products now enjoying a steady market.

Without the lines of railway in Cebu and Panay, little could be expected for the future of these two provinces and, perhaps, no investment offers better returns on capital than the Philippine Railway company once the inhabitants of the territory through which it runs recover from the depression of the last decade and new capital and modern enterprise find expression in flourishing crops and contented inhabitants. It may well be said that the Philippine Railway has taken the lead in the most important pioneer work in the Philippines since American occupation.

The following are the officers of the Company:

William Salomon, Chairman of the Board, New York.
Chas. M. Swift, President, New York.
Frederic H. Reed, Vice-President, New York.
C. Lewis, Vice-President, New York.
W. B. Poland, Vice-President and Chief Engineer, Manila.
J. M. Weinberger, Treasurer, New York.
R. R. Hancock, Secretary, New York.
A. Strausz, Jr., Auditor, Manila.

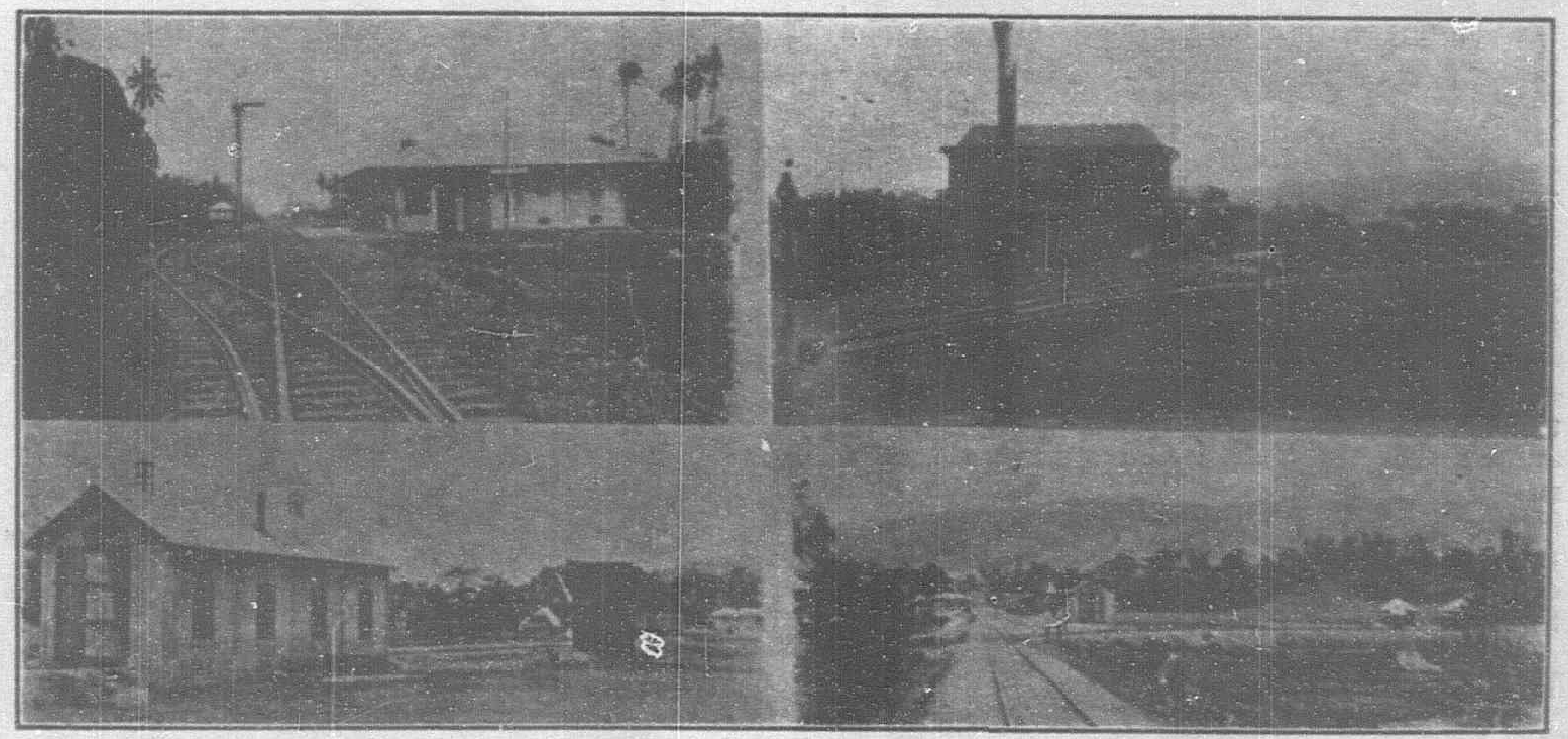
*Executive Committee*

Thos. H. Hubbard, C. Lewis, William Salomon, Cornelius Vanderbilt, and J. G. White.

*Directors*

Gen. C. R. Edwards
C. Lewis
Alonzo Potter
Frederic H. Reed.
Chas. M. Swift
Gen. Thos. H. Hubbard.
Maj. Frank McIntyre.
Wm. Barclay Parsons.
William Salomon.
Cornelius Vanderbilt.
J. G. White.

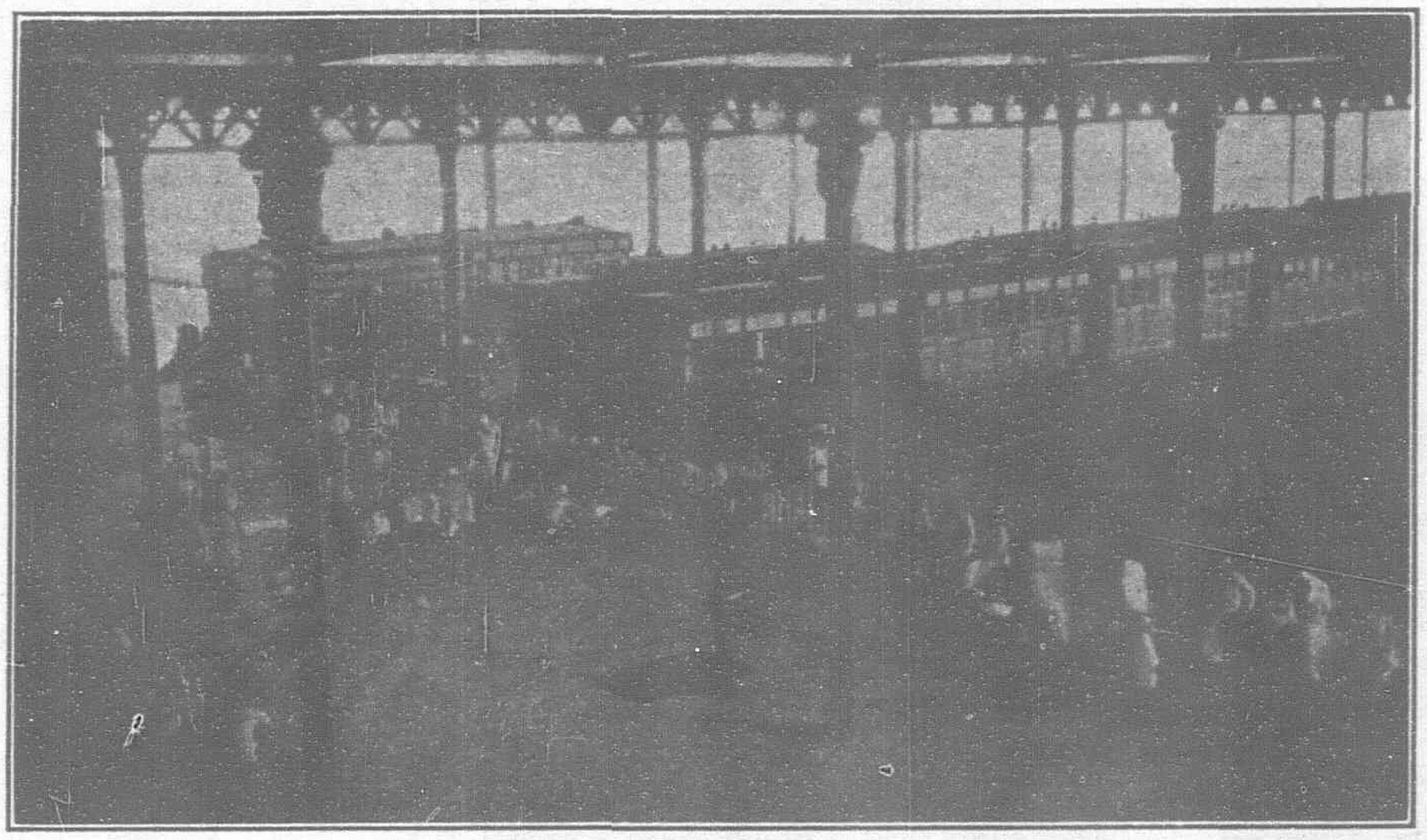
Mr. Poland is the Chief Executive and Representative of the Syndicate in the Philippines.



PHILIPPINE RAILWAY CO.—(1) STANDARD 2ND CLASS STATION LAYOUT SHOWING PASSING SIDING, TOOL BLOCK SIGNAL.—(2) VIEW OF NORTH END OF CEBU YARD.—(3) ENGINE SHED AT ARGAO.—(4) STANDARD STATION LAYOUT AT CARCAR WITH LOGE, ENGINE HOUSE AND SECTION FOREMAN'S HOUSE.

# THE MANILA RAILWAY COMPANY

The history of railways in the Philippines dates from April, 1887, when the Manila Railway Company, a British corporation, secured a concession from the Spanish Government for the construction and operation of a railway connecting Manila and Dagupan. The concession extended over a period of 99 years and carried a guarantee from Spain of 8% on the capital invested. The sum representing the capital carrying this guarantee was originally fixed at $4,964,000 to be raised later to $5,373,700. The concession also provided that at its expiration the road would revert to the Spanish Government with an option to purchase at any time during its life. The guarantee was based on an estimate of 50% of the gross earnings being allowed for working expenses. This guarantee was paid by the Spanish Government up to 1897, when the sovereignty of the country passed into the hands of the American Government. An attempt was made on the part of the company to secure from the American Government the latter's assumption of Spain's obligations under the terms of the concession. Besides this a claim was filed in the sum of $1,500,000 for damages to the road during the insurrection against American authority. These claims were withdrawn in 1906 under an arrangement with the Secretary of War by which concessions for the construction and operations of 428 additional miles of line were granted the company.



VIEW OF PASSENGER DEPOT AT MANILA, TERMINAL OF MAIN LINE MANILA RAILWAY CO.

In 1903, however, previous to the new railway program of the Philippine Government, the Commission granted the company premission to construct three extensions. One of these connects the military post at Camp Stotsenburg; the second Bigaa and Cabanatuan, and the third provided for a line connecting Manila and Antipolo. These concessions aggregated 87 miles of line.

The original capital of the company was $1,000,000 gold ordinary and $1,500,000 preferred with borrowing powers to the amount of $7,575,000. In 1904, Messrs. Speyers & Co. of New York secured a controlling interest in the company and later the company was reorganized in the United States under the same name. It was about this time that the Philippine Government was busy preparing extensive plans for opening up the islands to communication by rail, and it was with the Speyer Company that negotiations were carried on that resulted in the extension of the Manila Railway system to its present size.

Bids were advertised for the construction and operation of an aggregate of 1,200 miles of line and included in the original scheme about eleven different routes. The Philippine Government had in the meantime made provision for the guarantee of 4% on all capital invested for a period of 30 years, the interest not to exceed $1,200,000 per annum.

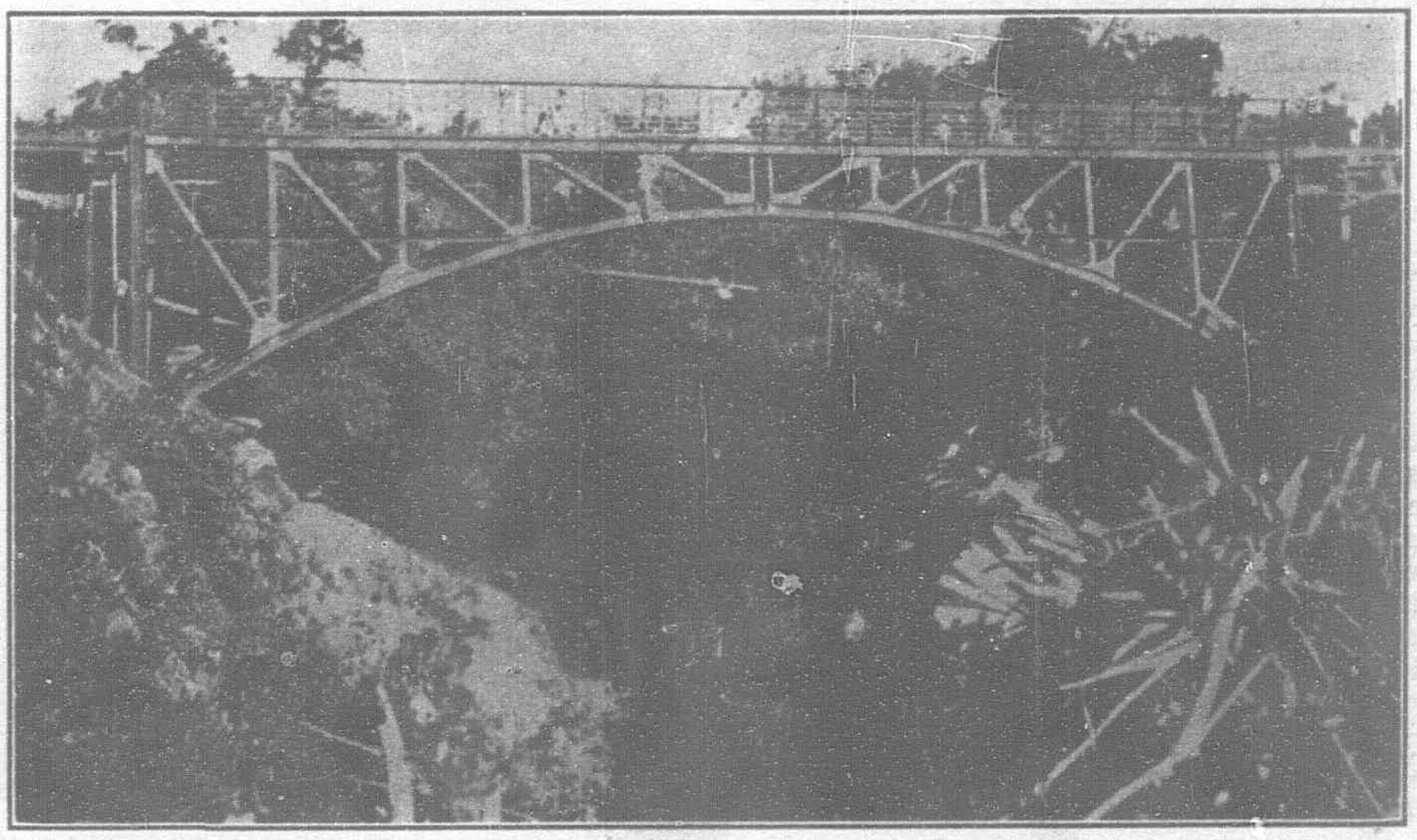
The bids were opened in December 1905 at Washington in the presence of the Secretary of War and Governor-General Wright. They comprised a bid for the lines in Luzon by Messrs. Speyer and Co., New York; a bid for the lines in Cebu, Panay and Negros by the Philippine Railway Co., and a third for the lines in Southern Luzon by a Seattle Syndicate. The Speyer Syndicate did not ask for a guarantee, but required in their bid that they be accorded low taxation, high rates without regulation by Government and permanent immunity from competition. These demands were considered excessive and together with the fact that the Seattle Syndicate had failed to deposit a cheque as guarantee, bids were re-advertised for and opened January, 1906.

The Speyers here presented two propositions, one for unguaranteed lines covering a length of approximately 400 miles and including an extension of the Manila-Dagupan to Laoag, and guaranteed line of 160 miles. There were some features of the conditions required to which the Government objected, but after a few months negotiations between the syndicate and the War Department, an amicable understanding reached whereby the guaranteed line from Dagupan to Laoag was abandoned and all the lines in Luzon were undertaken without guarantee. The following resolution adopted by the Philippine Commission presents the original agreement with Messrs. Speyers & Co., under which the Manila Railway Company undertook the construction of the lines in Luzon:

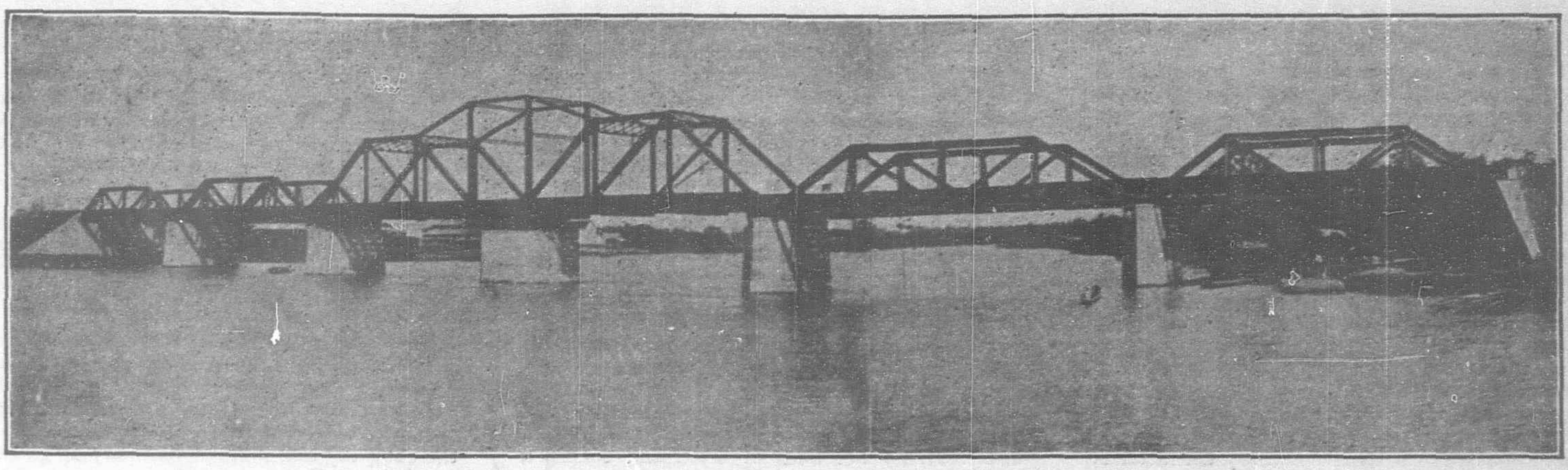
"Whereas, the Secretary of War and Vice-Governor Smith have reached an agreement with Messrs. Speyer & Co. upon the terms of a concession for the construction of 428 miles, more or less, of railroad in the Island of Luzon, the construction and equipment of which they agree to undertake and,

"Whereas, said agreement contained also a provision by which all the railroad lines of the Manila Railway Company, Ltd., whether built under the old Spanish grant or under concessions of the Philippine Commission, will be transferred to the new company organized under the laws of the United States and will be merged with the new system; and,

"Whereas, said agreement further provides that all claims of the existing railroad against insular, provincial or municipal governments in the Philippine Islands and the United States Government will be waived, and the original Spanish grant and concessions by the Philippine Commission for existing railroads will be ter-



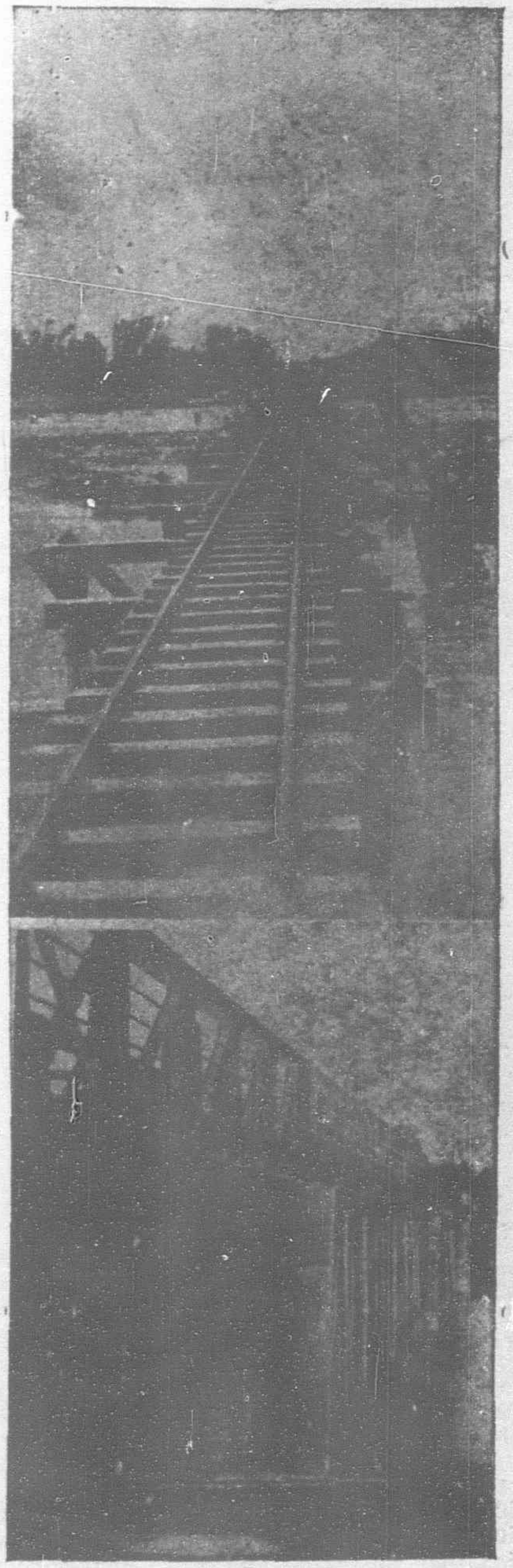
BRIDGE AT SAN JUAN RIVER ON MANILA RAILWAY CO.'S LINES. RAIL LEVEL TO BOTTOM OF CANYON 60 FEET. 30-METER ARCH SPAN



VIEW OF THE MANILA RAILWAY CO.'S DOUBLE TRACK R. R. BRIDGE ACROSS THE PASIG. ERECTED AND FABRICATED IN THE STRUCTURAL STEEL SHOPS OF THE ATLANTIC, GULF AND PACIFIC COMPANY

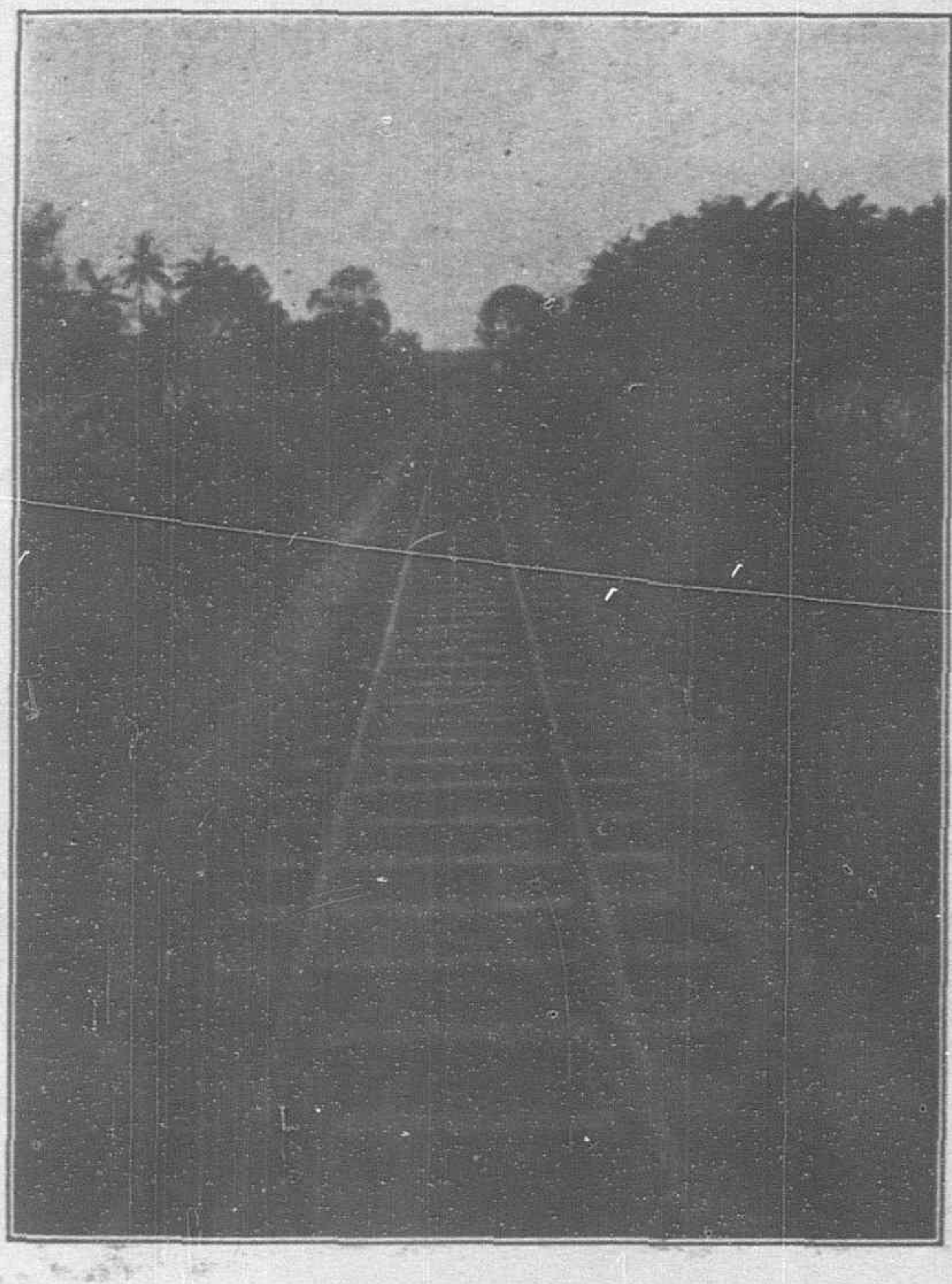
minated and merged in the new concession; and,

"Whereas, it appears to the Commission that it is in the public interest that railroads be constructed in Luzon at the earliest possible date and that the lines bid for are, on the whole, satisfactory and the terms proposed are such that the public interests will be properly protected if the same be accepted and approved;



MANILA RAILWAY CO.—BRIDGE ON ANTIPOLO LINE

"Now, therefore, be it resolved, That the Commission hereby agrees to award to Messrs. Speyer & Co. of New York, a concession, the terms of which are to be the terms contained in a draft of a proposed act, copy of which is hereto attached, which provides for the construction and equipment of 428 miles, more or less, of railway in the island of Luzon along the routes indicated in the attached draft and upon terms therein set forth; and,



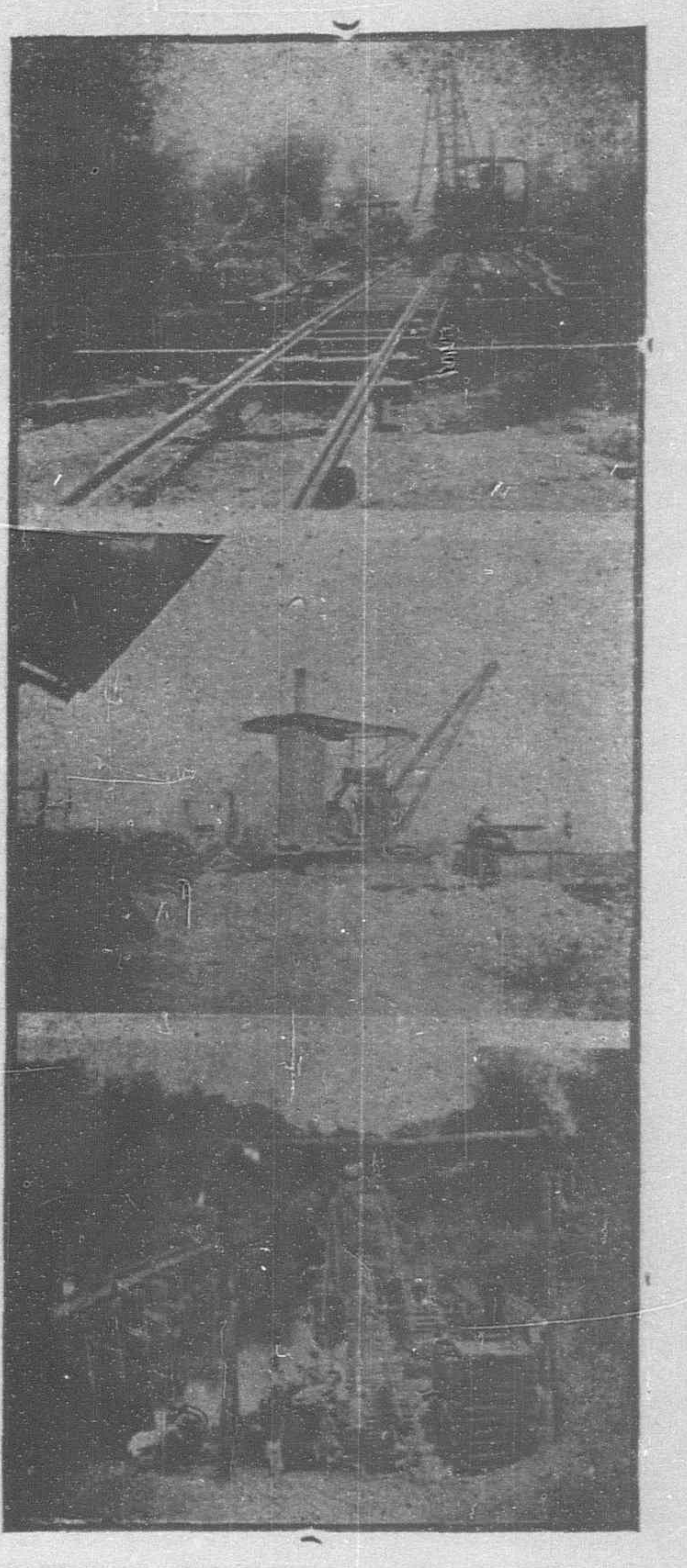
VIEW OF MAIN LINE CONSTRUCTION, MANILA RAILWAY COMPANY

"Be it further resolved, That in order that no time may be lost by the said company in making their arrangements to begin surveys and other plans for early construction, the Secretary of War is hereby authorized to give formal notice of such agreement to award; and,

"Be it resolved further, That the Secretary of War be notified that, upon receipt of the name of the proposed company for which the concession is requested, the Commission will pass an act in accordance with the terms of the accompanying draft, copy of which he now has at Washington."

The concession was thus granted under most favorable auspices. Among the most important features of the contract were the following:

The company agreed to build 428 miles in the Island of Luzon, of which 100 miles would be in Albay and the Camarines with a line from Manila southward to Batangas and Lucena connecting therewith, together with a number of branches of the Manila-Dagupan including an extension to San Fernando de Union and the Benguet Road.



MANILA RAILWAY CO.—TRACK LAYING, CONSTRUCTION TRAIN BUILDING CONCRETE PIER FOUNDATIONS

No guarantee of interest was included, and the rates of the Manila Dagupan prevailed the Government reserving the right to regulate them. The concession was made perpetual, the Government retaining the right to grant franchises to competing lines.

The rate of taxation of railroad property was fixed at one-half of one per cent of the gross earnings per annum for thirty years; one and one-half per cent per annum for the ensuing 50 years, after which it shall be fixed by the Government.

The surveys were to be completed in June, 1907, and the company was given to June, 1909, to complete the first 150 miles and 75 miles additional each year thereafter. Materials for construction were admitted free of duty.

The gauge, as in all the railroads in the islands, was fixed at three feet six inches and first rate construction and practice to be provided.

By Act of the Philippine Legislature on May 19, 1909, a further contract was entered into by the Philippine Government with the Manila Railway Company, whereby the latter is to construct approximately 150 miles additional, upon which interest on bonds is guaranteed. More detailed information is given in the report of the Supervising Railway Expert included in this article. The construction of these lines, up to the present time, has been continuous up until last year and has again been renewed. Mr. Horace L. Higgins, General Manager of the company, has been in charge and to his knowledge of local conditions gained by years of experience at the head of the fortunes of the Manila Railway Company in the Philippines, is due the rapid progress made in carrying out the plans of the company.

*Manila Railway Construction.*—An estimate of cost on construction of these lines has been made, but no definite figures are available. On the Cavite line the cost, not including equipment or administration charges, is estimated approximately ₱30,000 per kilometer. The construction on the Batangas line is placed at about the same figures with additional for the expensive work in bridging the Pasig from Santa Mesa. The average embankment on all the Manila Company's lines is about four meters wide. The ties are 6′ 6″ long and Australian wood is used. The bridges are mostly temporary pile bridges on the new construction to be replaced on renewal by concrete and steel. The stations are built of wood and concrete with a view to the introduction later with reinforced construction throughout. Indeed, the first cost of the construction of the new lines has been very low, the management proceeding on the plan of using temporary standards for initial operation with a view to a steady renewal on a more permanent basis as required.

Until recently the labor used was secured under contract and the results showed a cost of 30 centavos a cubic meter for embankment This is simply the contract price and does not include administration or the supply of tools by the company.

Up to the first of the year the extension from Dagupan to San Fernando de Union was open for 47.7 kilometers north of Dagupan and 62.2 kilometers were completed on the Batangas line to Tanauan.

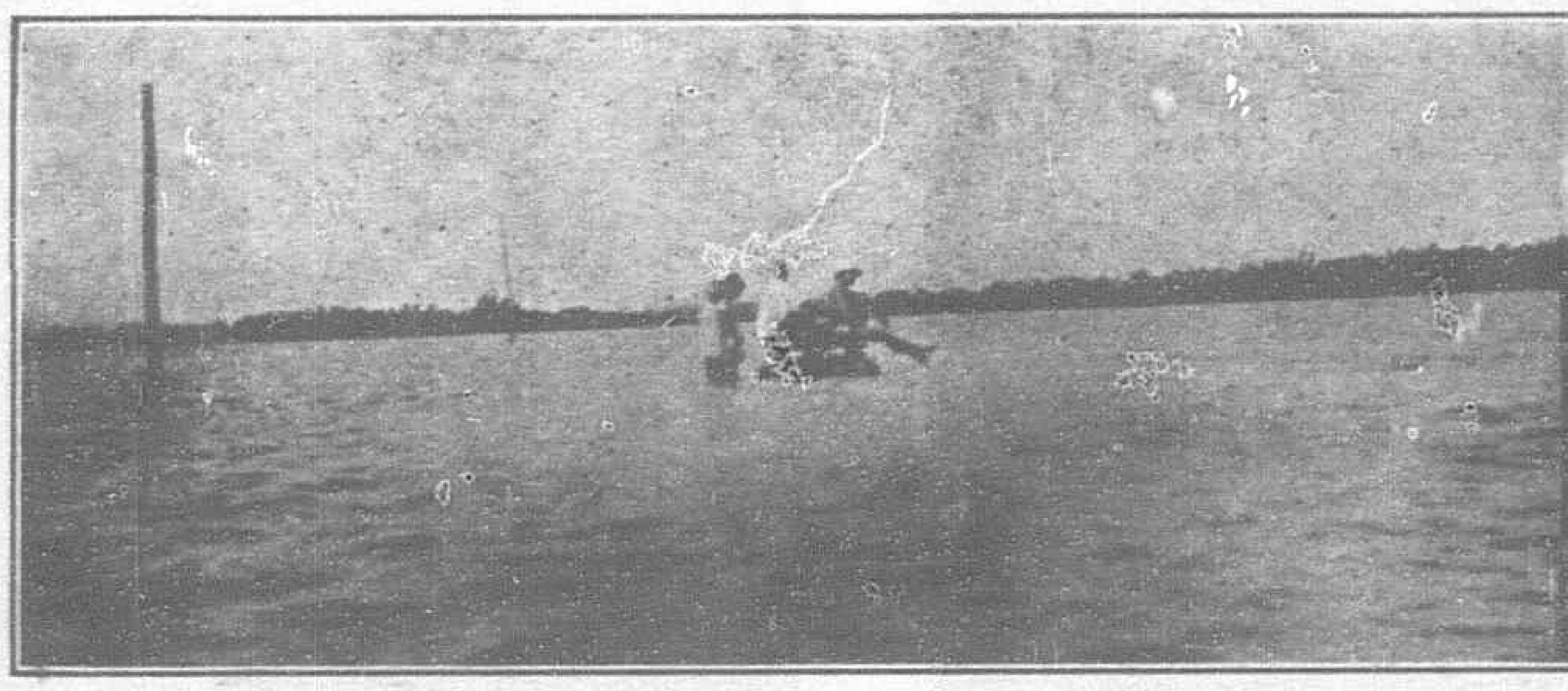
The local officers of the Manila Railway Company are: President and General Manager Horace L. Higgins, Esq.; Chief Engineer, F. S. Snowden Esq.; Traffic Manager, Fred. C. Wright Esq.; Accountant, J. H. Allen Esq.; A. W. Bennett Esq., Secretary to the President.

*Directors' Report.*—At the second annual meeting of the Manila Railway Company held recently in London for the year 1908, the following information with regard to the status of the company and its prospects may be gathered from the address of the Chairman, Mr. C. J Carter Scott:

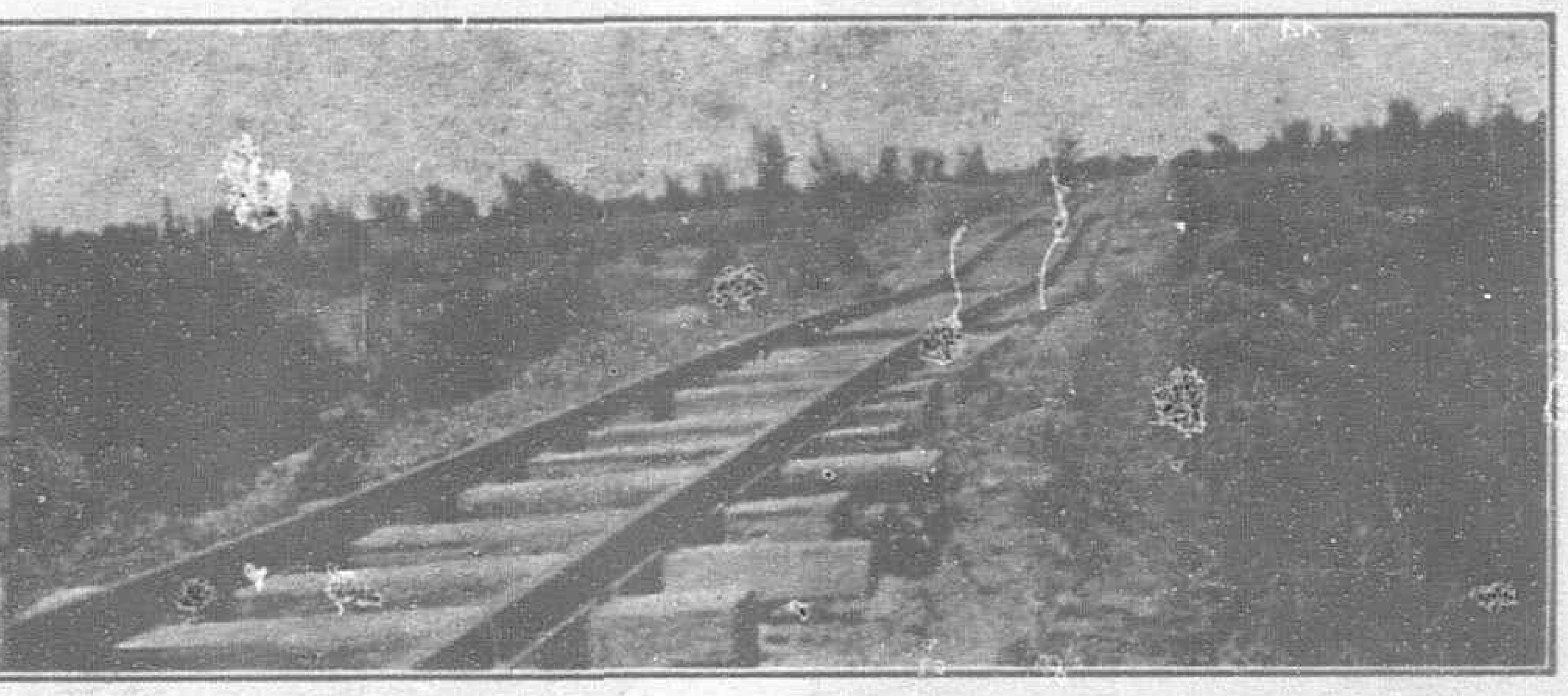
"You may remember that in May last we had to hold special meetings of debenture and share holders to consider a new scheme necessitated by the desire of the Philippine Commission that we should undertake further railway construction in the Philippines, and that involved practically separating the whole of our railway system there into two parts—the North-

WASHOUT ON CAMP ONE BRANCH

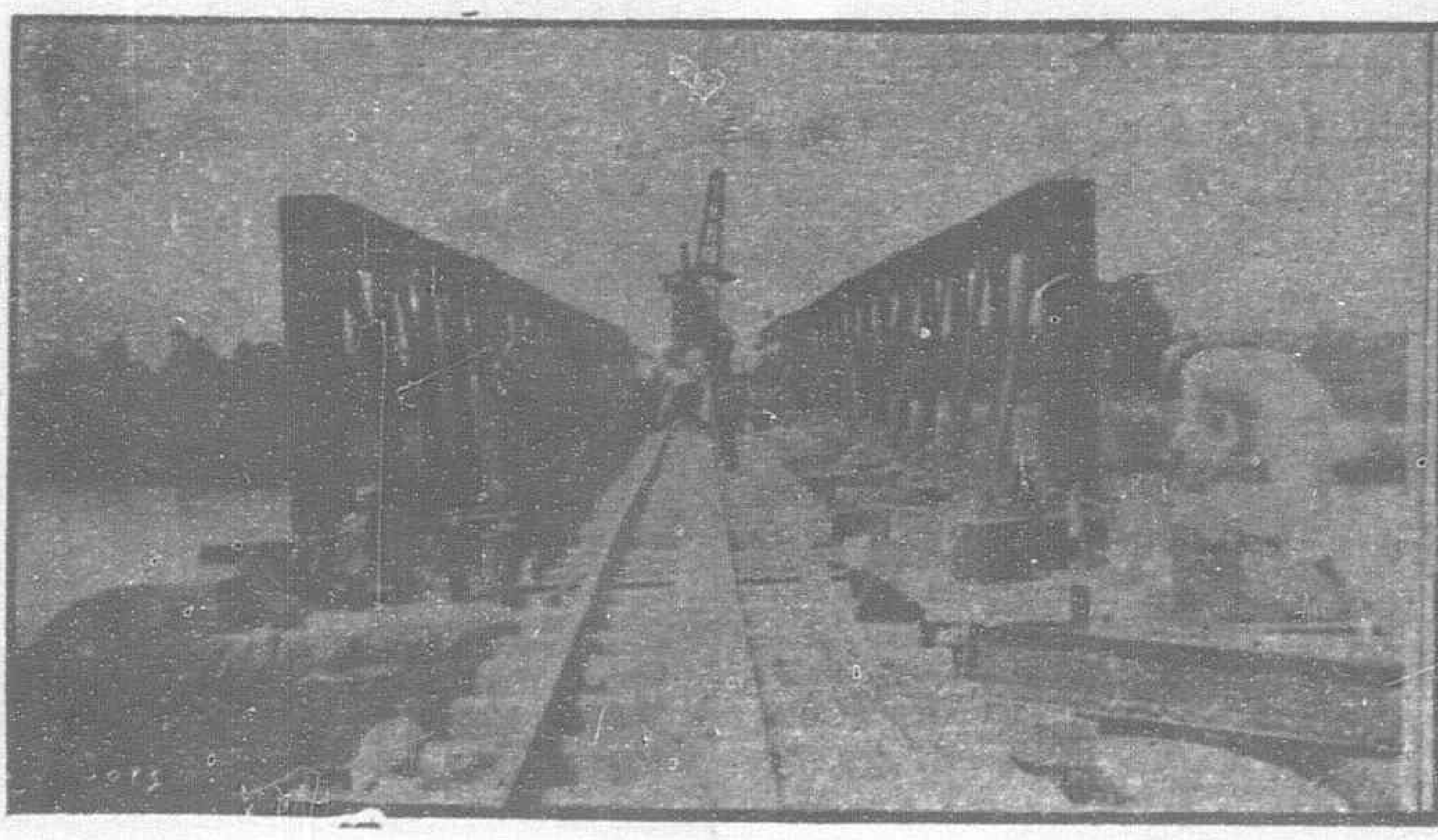
ANOTHER VIEW OF RESULT OF WASHOUT ON MAIN LINE NEAR MANGALDAN



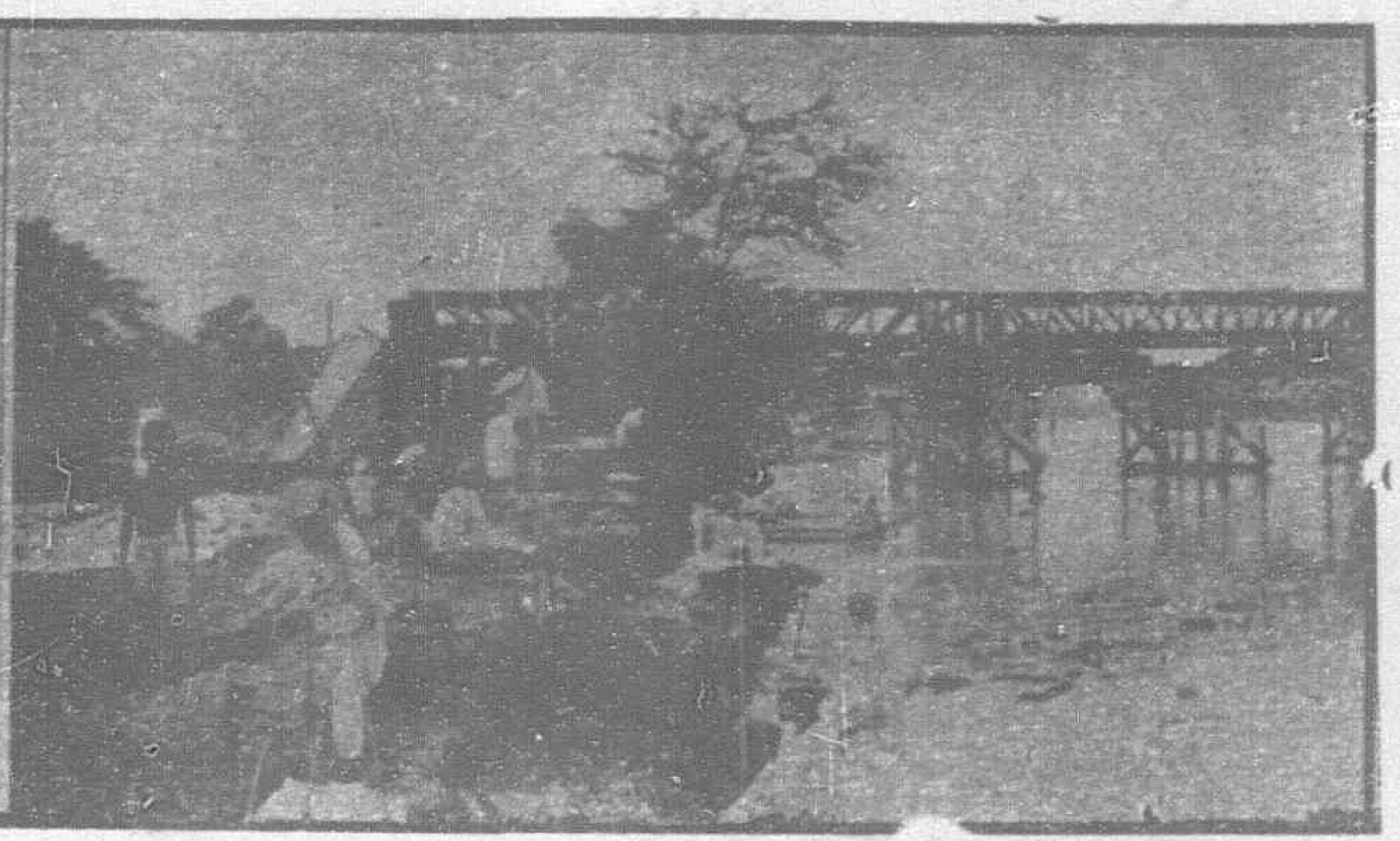
WASHOUT BETWEEN DAGUPAN AND MANGALDAN ON THE MAIN LINE



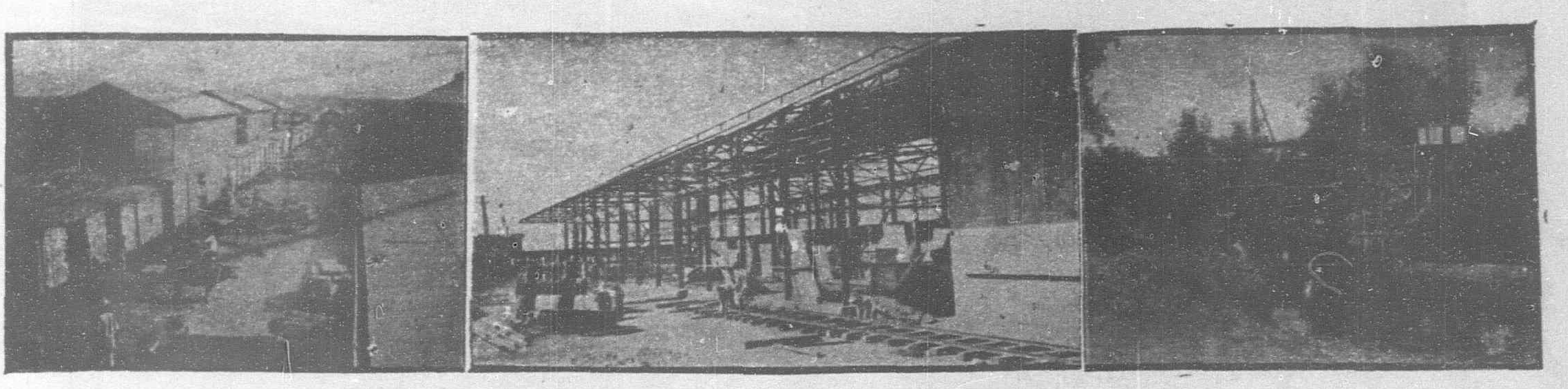
RESULT OF BAGUIO ON THE CABANATUAN LINE ABOVE MANICLING



MANILA RAILWAY CO.—BRIDGE ON CABANATUAN EXTENSION

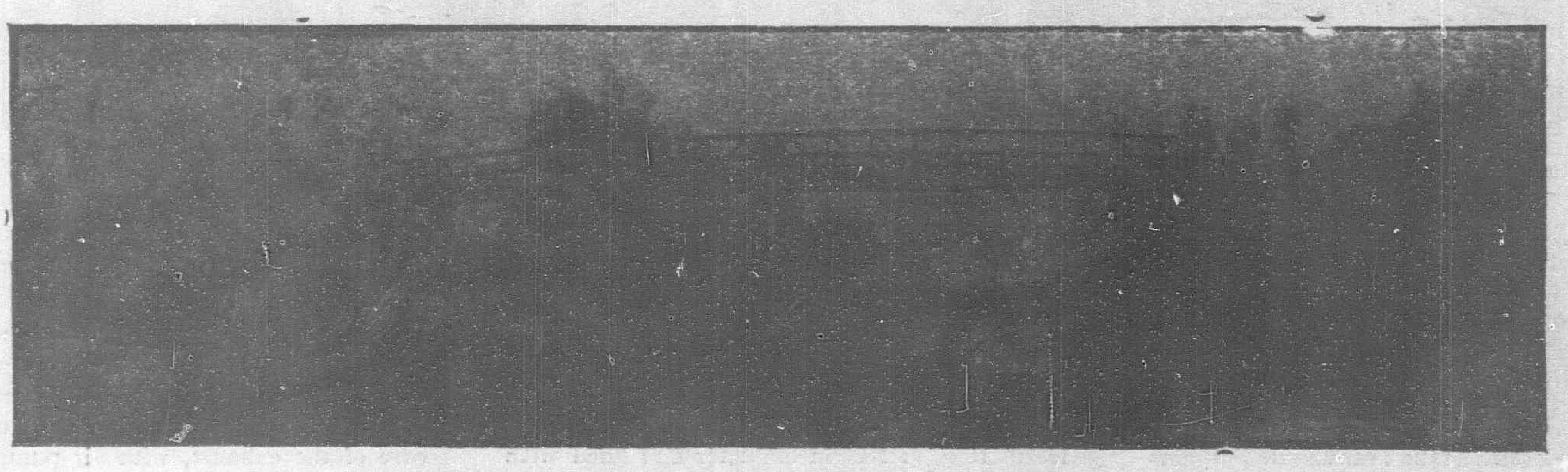


STEEL BRIDGE OVER MARIQUINA RIVER ANTIPOLO EXTENSION ern unguaranteed and the Southern guaranteed. At that time you approved the arrangements. I think very rightly, because I consider they were excellent arrangements for us. I then also went very fully into the question of the future of the railway—I tried to enlighten you, to the best of my ability—so that I think to-day it is useless for me to go over a great deal of the ground which I covered then. That the work is being economically carried on I think is self-evident, because you can see that the ratio of expenses in Manila is 42.15 per cent., which is very low. It is true that the figure is rather higher than in the previous year, because in 1908 we had a rather serious failure in the rice crop, which necessitated a considerable shrinkage in our revenue; but, all the same, the ratio of working expenses for 1908 is below the average of the previous ten years, and I think it will compare favourably with that of any other railway that I know of. At the same time I can assure you that the property is being well maintained, Mr. Allan, the acting-superintendent in Mr. Higgins's absence, stating so in his report, and I know perfectly well that Mr. Higgins is the very last man to allow any property over which he has control to go downhill. The amount which we had to receive from the Manila Railway Company of New York—we being the holding company—for interest on the debentures and bonds held by us was £125,190; but as the actual earnings of the railway company were only £116,916, we have not taken credit for the larger amount, but only for the amount representing the actual earnings, leaving the amount of £8,274 as due to us by the American company. Then from that amount of net revenue which the American company received we have to deduct the London charges, and we find ourselves in possession of a net revenue of £112,215, which, added to the £19,078 brought forward from previous years, makes a total available balance of £131,293. On the other side of the account you will find that the amount of interest paid and accrued on our "A" and "B" debenture bonds amount to £140,866, of which, according to the plan of reconstruction, £47,666 was chargeable to capital account, leaving a balance of £93,200 chargeable against revenue, and after paying that there remains a balance carried forward of £38,093. We are dealing with figures which, you must remember, as I said just now, are the net earnings of a year when we had a serious shrinkage in our rice crop, and, naturally, with that a serious diminution in our receipts. What that diminution on rice in our receipts was you can gather, because in 1908 we carried 77,198 tons of rice, against 137,519 in the previous year, or 60,000 tons less, whilst our total goods carried amounted to 175,307 tons, against 229,556, or 54,000 tons less; so that you will see that the falling off in the revenue was entirely attributable to the shrinkage in the rice crop. At the same time we had an increase in our passenger traffic which was satisfactory. It is a little difficult in this period of construction, when we are day by day bringing fresh lines into operation, to make any comparison, but the figures I am giving you now and the figures I propose to give you are the figures of the old main line. The old main line is the only part of the system where we have any thing that we can compare with previous years, as you will quite understand. The result of the working was that the total receipts of the main line were $1,500,408, which was $151,237 less than in the previous year, and we worked, as I said just now, at 42.25 per cent., as against 41.12 in the previous year. In the balance-sheet the only item I want to draw your attention to is the considerable increase in the amount of our holdings in the Manila Railroad Company. That increase amounts to £1,235,000, and represents money invested in the construction of the new works—money which we found here and for which the American company has paid us in its bonds and stock. That is the only material change in the balance sheet.



MANILA RAILWAY CO.—TEMPORARY BRIDGE. NEW STEEL FREIGHT SHEDS, MANILA

"But now I venture to think that, perhaps, what will interest you more is that I should endeavour to give you some forecast as to what the year 1909 will show and from that you will be able, probably, to gather what the future of the railway is likely to be. For this purpose I have got out certain estimates. I calculate that the amount required for interest on debentures during 1909 will be £143,950. Then on the 360 miles of railway which we have been operating during the year 1909 I estimate that the net earnings will be £135,000. That 360 miles includes 210 miles of what I may call the old roads, and they are estimated to produce £122,000, which works out at about £580 per mile net. The other 150 miles have only produced £13,000, and what I want you especially to notice is that in this estimate of £135,000, practically it is all earnings from the old roads—the 210 miles. You will thus see that you have scarcely begun to reap any benefit from the 150 miles which we are now operating, and which Mr. Higgins and all who know the position out there believe will eventually be equally good with the 210 miles. There you have £135,000 against your debenture interest of £144,000, but, in addition to that, of A and B bonds, invested in the construction of the Southern lines before the new arrangement was made with the Philippine Commission. That money has to come back to the Northern lines, and until it comes back I believe we are entitled to 4 per cent. interest on it; so that, in addition to the £135,000, you have some £20,000 of interest to come back, making a total of £155,000 available against interest on your debentures of £144,000. I think, therefore, you may take it that for this year, without charging any interest to capital, which I believe it would be quite in our power to do, we shall be able to meet the interest on our debenture bonds entirely out of revenue, and have a reasonable margin to be carried forward. It is almost unnecessary for me to tell you this—that the earnings from these 360 miles, and some more miles on the Northern lines which are not yet completed, will not be all that you, the shareholders, and the prior lien bondholders, will have to look forward to. By the arrangement with the American Government, the Southern lines will pay the Northern lines for the use of the Manila terminus, and the Manila shops, all of which are essential to the Southern lines, so that the income of the Northern lines will be considerably swollen by that; and I may say now that, looking at the position of the company as I see it day by day developing, the business growing, and the good prospects of crops this year, I am more and more satisfied as to the future. You will understand that for one like myself, who has been associated with the Manila Railway Company from the very first day, and had to bear quite his fair share of the anxieties and troubles which we have had in the past, it is a source of very great congratulation that I can say I believe that now we can all see daylight.



MANILA RAILWAY CO.—NEW STEEL BRIDGE WITH CONCRETE PILE

"As to extra construction during this year, while they had had all these arrangements going on with the Philippine Commission practically all construction work was shut down.

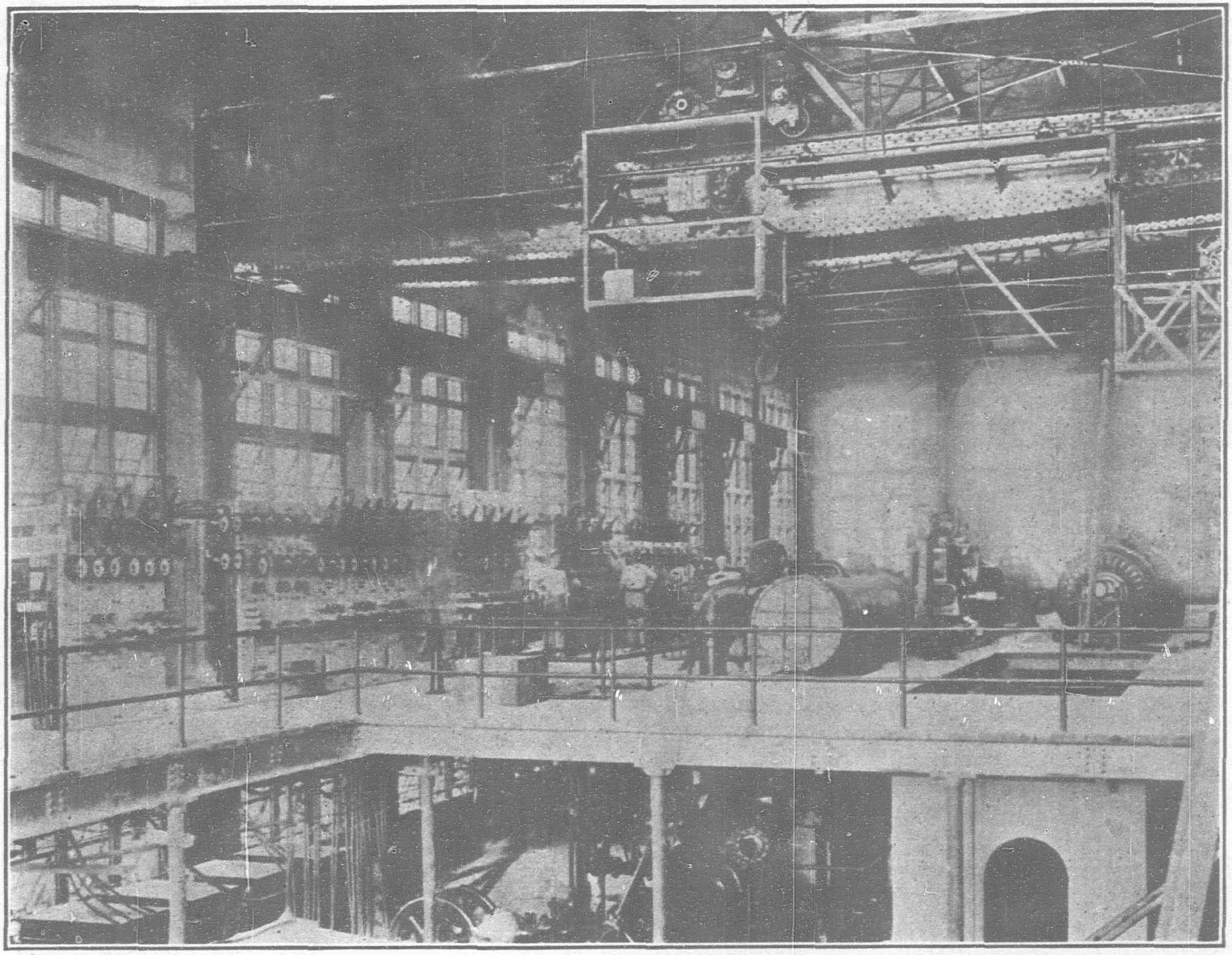
# THE MANILA ELECTRIC RAILROAD & LIGHT CO.

This company which operates a modern system of electric trams in Manila was organized under the laws of the State of New Jersey under the name of the Manila Railway & Light Company, but in July, 1903, the name was changed to the Manila Electric Railroad and Light Company. The original promoters of this enterprise were Messrs. Frank H. Buhl and Peter Kimberly of Sharon, Pa., Messrs. J. G. White & Co., Inc., Mr. Chas. M. Swift of Detroit, Mich., and the Westinghouse Electric and Manufacturing Company of Pittsburg. This company took over the electric lighting franchise of La Electricista, the Spanish company of Manila, and secured a franchise of the installation of a system of electric railways in the city taking over the old franchise of the horse car company known as the Tranvias de Filipinas

The contract was let to Messrs. J. G. White & Company and work began in December 1903. Filipino labor was employed successfully and in April, 1905, the line was opened for traffic and during the year about 35 miles were included in the city system.

*Power House.*—A site was secured on an island in the Pasig River and a building of steel and concrete erected 170 feet × 105 feet with a height of 50 feet. The foundations were laid on 35 foot native hardwood piles. The boiler room and the engineroom have a basement 12 feet in height through which the intake and outlet tunnels 3 feet × 11 feet for the condensors are carried. The stack is 181 feet in height above a six foot pedestal on foundations made by excavations to a depth of 21 feet. It is 11 feet in diameter and lined with brick throughout.

The equipment comprises four batteries of Babcock & Wilcox boilers, each battery representing two boilers, each of 4,000 square feet of heating surface. Two outside compound packed plunger feed pumps manufactured by the Blake Pump Works are installed. Auxiliary steam exhausts in two Goubert heaters, heat the feed water and the exhaust is made into the condensor outlet tunnel. The boilers were tested to 400 pounds and operate at 200 pounds pressure.



ENGINE ROOM OF THE MANILA ELECTRIC R. R. & LIGHT CO., SHOWING STEAM TURBINES AND ELECTRICAL SWITCHBOARD

The engine room contains two 750 kw. Westinghouse turbo-generators and an additional 1500 kw. turbo-generator of the same class. The Alberger dry vacuum apparatus is used to take care of the exhaust, with air pumps in duplicate, one of which is capable of carrying the entire load. Two centrifugal 14 inch pumps operated by Westinghouse Standard Engines provide the circulating water taken from the intake tunnel. Blake duplex pumps force the condensed steam into a hot well from which it is taken by feed pumps.

The turbo-generators are of the 3-phase, 360 volt type, making 1800 r. p. m., Two steam exciting outfits of 50 k.w. capacity and one motor driven exciter of the same capacity are installed. The switch board has thirty-two panels equipped with Westinghouse safety devices. The 360 volt alternating current is converted to direct current by three 500 k. w. and one 300 k. w. rotary transformer for power for the

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Mr. Higgins was over here for a very long time carrying on these negotiations, and until they knew what sort of bonds they had to sell, they practically could not raise any money; but he (the Chairman) hoped that before very long they would make a fresh start and push on construction. They had a lot of work done, and preparations made. He might say that there was no fear, by the delay, of their coming into conflict with the Philippine Commission or the American Government, and being told that they had not complied with the concession.

"Mr. Bruce Gardyne said he understood that only 20 miles of new road were constructed during 1908, and it had been in his mind to ask whether the board, with their knowledge, were satisfied with the progress made, having in view the period of time over which the construction had been extended.

"Mr. Gamble proposed a vote of thanks to the chairman and directors for their valuable services during the past year. The Rev. Palmer Grenville seconded the vote, and Mr. Higgins, together with the secretary and staff, having been included therein at the suggestion of Mr. Bruce Gardyne, it was unanimously accorded.

railway and the one of 500 k.w. is supplied with a 250 k.w. booster. For lighting and outside power the voltage is increased from 360 k.w. to 3,300 volts and distributed on the two phase system. A Niles 30-ton electric travelling crane is installed.

An addition was made to the generating plant in 1908 consisting of one 2,000 kw. Westinghouse turbo-generators and two batteries of Babcock & Wilson Boilers with accessories. For the purpose of this additional installation the power house was extended 30 feet.

Railway Shops. This building covers an area of 220 feet × 35 feet and includes a blacksmith shop equipped with a 15 h. p. Westinghouse motor, bolt cutting machine, a belt trip hammer and three forges; a machine shop equipped with a 23 h. p. motor, wheel boring machine, Schaefer wheel press, three Fifield lathes, two Cincinnati upright drills, one shaper, three tool grinders, one Universal Shaper, one planer and one power hacksaw; armature and winding room thoroughly equipped with all the most modern machinery for this work and besides a carpenter shop and paint shop. These shops have an overhead trolley and drop pits for separating the parts of the car and its equipment with expedition.

*The Car Storage and Offices.*—This building is 165 feet square constructed of steel and concrete. The first storey is used for shelter for the cars and headquarters for transportation. All cars start from this building in the morning and are stored here during the night. Between the tracks are drop pits where repairs may be made. There are also the employees' lobby, supply department, and receivers' office on this floor. On the second floor are the administration offices, 25 in all. The barn has a capacity of 50 cars. In the rear of this building is the big store room of the company and a separate place for the storing of lubricating oils, etc.

*Operation*—The total length of line in operation is approximately 63 kilometers, of which 39.8 kilometers comprise the main lines. The automatic block signal system is used which prevents the possibility of collisions on streets provided with only a single track. Native conductors and motor men are employed and have been found most satisfactory. Indeed, in the entire company's operations the native is utilized under white supervision most successfully.

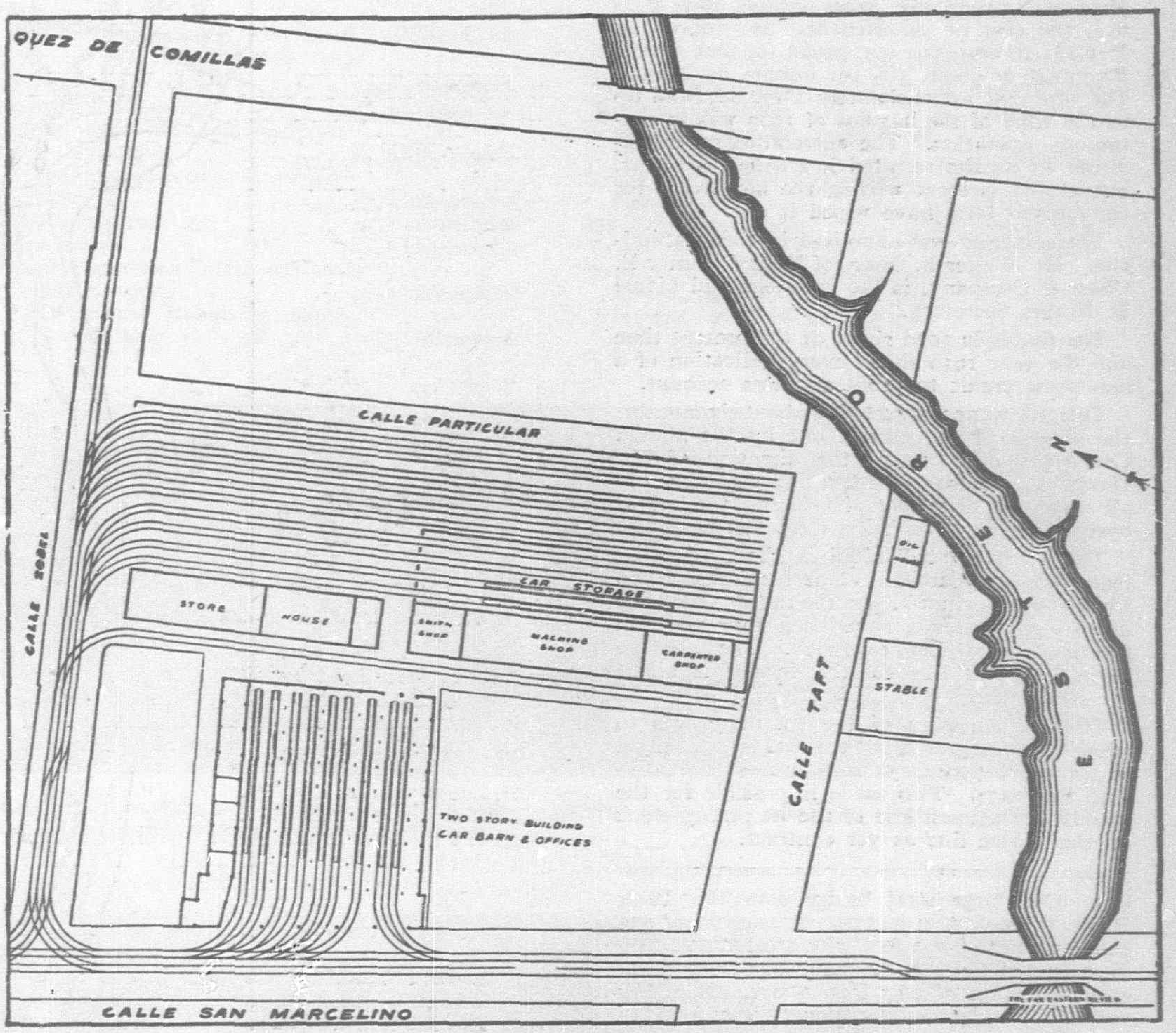
It might be said that the installation of this system of electric trams is of the most permanent character. The track is standard gauge and is laid throughout in concrete ballast. Much difficulty was encountered in installing the overhead work on account of the narrow streets. In many sections it was impossible to make the character of this work uniform. Center pole construction on wide streets was changed to the substitution of brackets on the narrower thoroughfares.

*Rolling Stock.*—There are 105 motor cars, of which number 55 were erected in Manila. The bodies of steel frame and teak were imported from Belgium, the axles and steel tired wheels from England and the electrical equipment from the United States. Each of these cars is equipped with a 40 h. p. motor and carries 50 passengers. The balance of the rolling stock consists of six double truck, 12-bench open cars, four double-truck combination open and boxed, fifteen double truck full convertible and 15 double truck semi-convertible and the balance miscellaneous. Among the manufacturers supplying these cars are the Preston Works, Brill and Stevenson. The climate is very severe on rolling stock and the upkeep demands a great deal of attention.

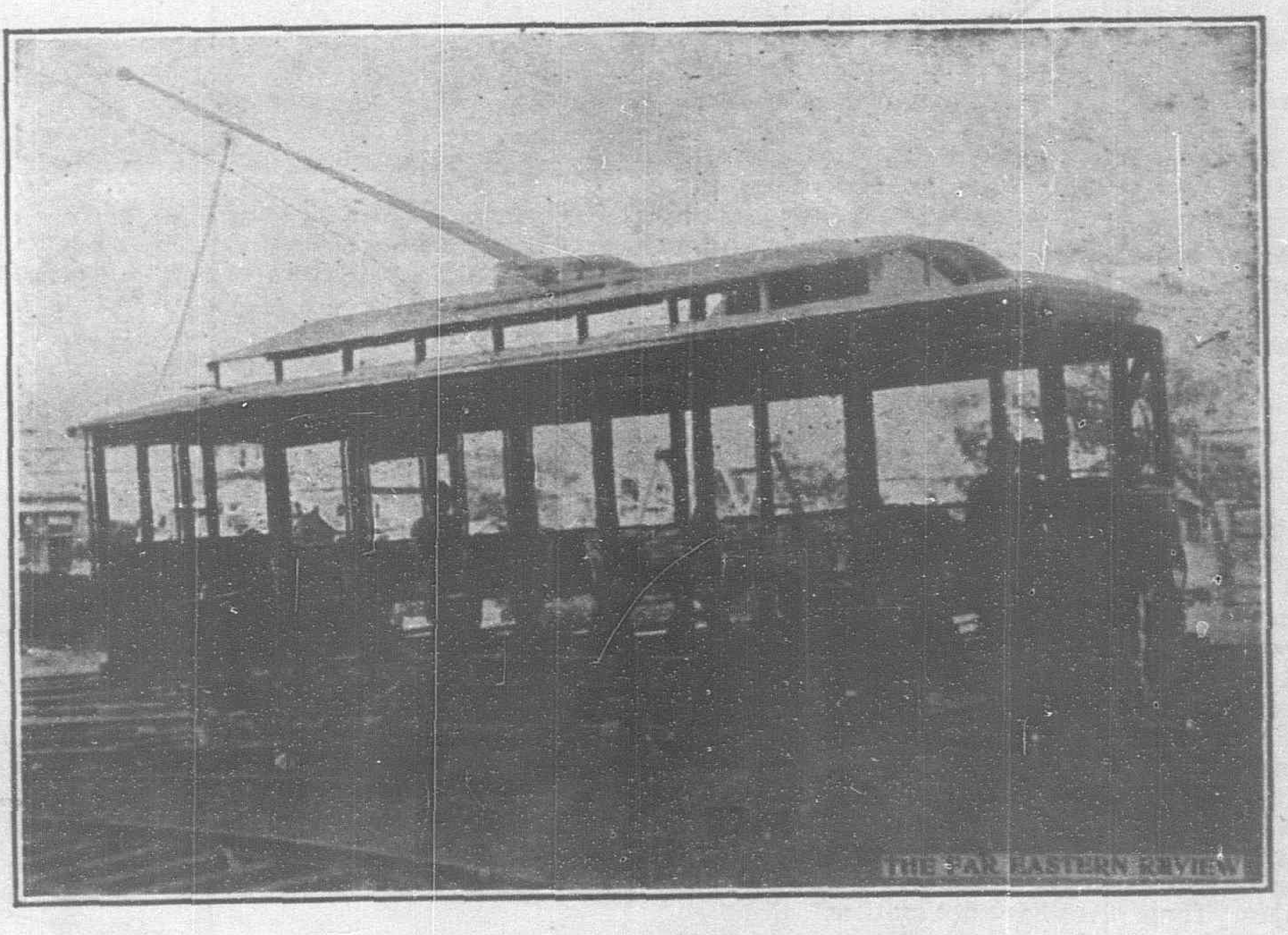
The local officials of the Manila Electric Railroad & Light Company are: Mr. C. B. Graves, 2nd Vice-President and General Manager; Mr. C. L. Stone, Assistant General Manager; Mr. J. Beckett Russell, Auditor, Assistant Secretary and Assistant Treasurer; Mr. Percy Farrant, Assistant Auditor; and Mr. M. F. McLin, Secretary to the General Manager.

# The Manila Suburban Railway Company

This company has been operating a line connecting Pasig with the Manila Electric Railway System, a distance of eight miles, since January 4th, 1908. It was first opened as far as Fort William McKinley on April 18th, 1907. It taps a fertile district with a large and growing population and with the traffic from the military post is one of the most desirable undertakings in the islands. The line was built by Messrs. J. G. White & Company, Inc., contractors. The grading quite heavy, amounting to over 62,000 cubic yards, of which one-half was rock. The maximum grade is four per cent and the minimum radius of curvature, excepting for the terminal loops, 300



GROUND PLAN OF CAR BARN AND OFFICE BUILDING SHOWING



TEN-BENCH SINGLE TRUCK OPEN CAR

## THE TARLAC RAILWAY COMPANY

This line which joins Paniqui and Camiling in the province of Tarlac is approximately 12 miles in length and taps the rich valley of Camiling, giving an outlet for the large rice crop of that section. It was completed May 7th, 1907. The Manila & Dagupan Railway entered into a contract to supply and operate the rolling stock on a basis of 50 per cent. of the gross receipts. The entire line may be said to have been in operation since November, 1907, and for the first eight months ended June 30th, 1908, the gross receipts were ₱22-654, the cost of maintenance and operation ₱16,881.40 and the net profit for that period ₱5,772.40 or about 5% per annum on capital. The line cost approximately ₱172,087, and up to the time of the baguios of 1909 was in continuous operation. The extraordinary expenditure in repairs resulted in a deficit last year, but at the present writing the net profits for the current term have wiped it out.

The company was organized by local capitalists. Mr. Walter E. Olsen, of Messrs. Walter E. Olsen & Company, is the president and Lionel D. Hargis, Secretary.

The line is in good shape at the present time and the year 1910 shows every indication of a handsome credit to profit and loss account.

This line was constructed in about six months, the contract being carried out by the Manila Construction Co. under the direction of Mr. Harry G. Thurber, constructing engineer. In all there are 4,000 feet of bridging, the largest over the Tarlac River being 1,400 feet in length.

The junction at Paniqui is about 87 miles from Manila. Camiling alone furnishes 20,000 tons of produce, and since the railway has been operating new lands have been improved and farming operations extended. The average saving by this line to the farmer is about ₱2.50 per ton.

The original plan of the company was to adopt a 30-inch gauge, but this was later widened to the narrow gauge or standard of all Philippine Railways. This made it possible for the Manila & Dagupan line to use its rolling stock on the Tarlac line as per contract.

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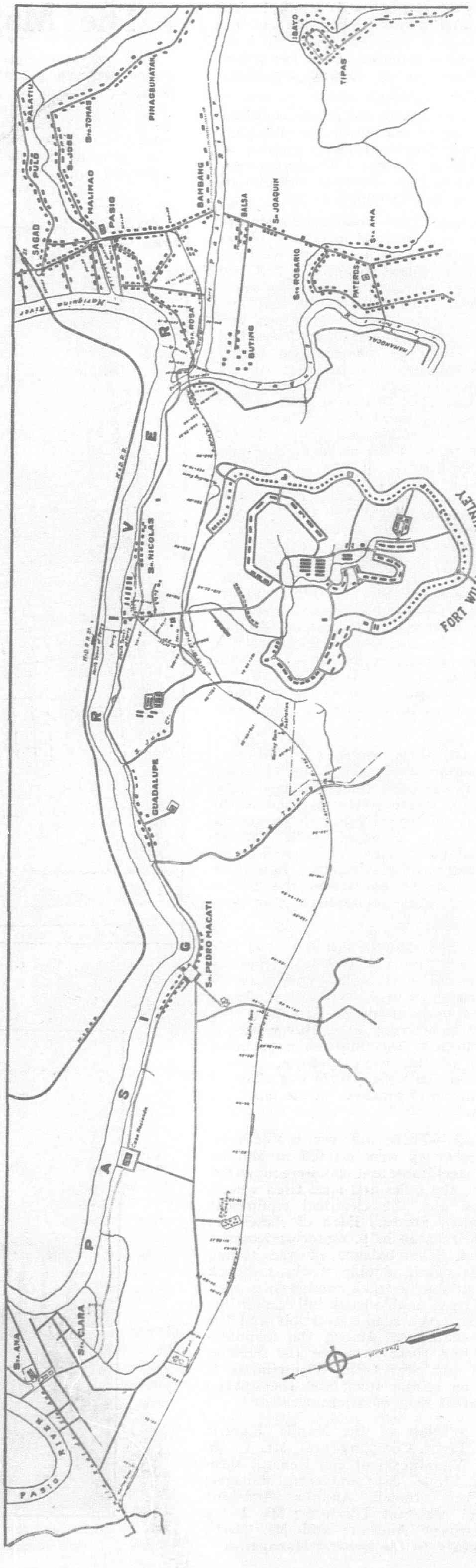
feet. One large steel bridge over the Pasig River is 430 feet in length. It consists of one channel span of 200 feet with steel trestle viaduct approaches and the main span has a minimum clearance of 16.5 feet above mean low water. Foundations are concrete carried to rock where possible and otherwise supported on piles. This bridge is sufficiently wide to accommodate the railway and public traffic. The ties used are of the best quality of Philippine hardwood and laid with eight inches of crushed stone ballasting underneath. The rails are 70 pound T section with standard split switches and No. 9 spring frogs. Block signals are installed at all the switches and telephones are located at convenient points. Comfortable waiting rooms have been erected along the route.

Power is furnished by the steam generating plant of the Manila Electric Railroad and Light Company and is transmitted to a rotary substation at 3,300 volts from which it is carried to the trolley by feeders. Double 2-0 trolley is used. The poles are of ipil and set in concrete.

In addition to the passenger service this line has developed a large freight carrying business which is constantly growing. All the freight cars used are equipped with air brakes and three of them have four 75 h. p. motors each. These cars will carry a live load of about 25 tons. The passenger cars are equipped with air brakes and arc headlights and have each a capacity of 36. Each car is equipped with four 40 h. p. motors. There are six passenger, three freight, and four flats in use.

It is proposed to extend the line from Pasig to Laguna de Bay and add a line of swift passenger boats to points along the shore of the lake as well as to the attractive gorge at Pagsanjan. These plans have not matured, although approved, and it is understood will be carried out this year.



FORT McKINLEY-PASIG LINE OF THE MANILA SUBURBAN RAILWAY CO. AND EXTENSION TO THE MANILA ELECTRIC RAILWAY SYSTEM

# PHILIPPINE RAILWAYS FOR 1909

The following includes excerpts from the report of Mr. L. F. Goodale, Supervising Railway Expert, to the Secretary of Commerce and Police, for the fiscal year ended June 30th, 1909, covering the progress made on the different lines in operation or under construction.

## THE MANILA RAILROAD CO.

Application was made on April 2, 1909, by the Manila Railway Company for an extension of the time for filing final plans of its lines covered by Act No. 1510.

The Governor-General, by letter of April 19, 1909, granted the extension requested, i. e., from September 12, 1909, to March 10, 1910, and the extension was accepted by the Railroad Company on May 17, 1909.

By Act No. 1905 of May 19, 1909, the Philippine Legislature authorized the Governor-General to execute a contract with the Manila Railroad Company covering the construction of railroad lines on the Island of Luzon, in addition to those covered by Act No. 1510 of July 7, 1906, as follows:

"(A) A line from the present line of the "railroad to and into the port of Manila not "exceeding approximately five kilometers "(three miles) in length;

"(B) A line to Baguio from some point "authorized on the existing railroad, with the "right to use the Benguet Road in a manner "subject to the approval of the Governor-"General;

"(C) A line from some point of the exist-"ing or authorized lines in the Province of "Tayabas or La Laguna to some point of "the authorized line of the Railroad Com-"pany approved by the Governor-General."

thus adding approximately two hundred and sixty kilometers to the lines covered by Act No. 1510.

The contract also provides that, under section four of the Act of Congress approved February 6, 1905, the Philippine Government will guarantee interest at four per cent per annum on bonds which may be issued to aid in the construction of the above lines, and of the line for the Manila Railroad Company south of Santa Mesa (Manila) covered by Acts No. 1510 and 1714.

The amount of the guaranty is limited to the difference between the amount necessary to guarantee the bonds of the Philippine Railway Company, covered by Act No. 1497, and the amount now, or which will be authorized by law.

Contract provides for the joint use of the Tondo (Manila) and Caloocan Terminals by the guaranteed and unguaranteed lines, and separate books showing the cost of construction, maintenance and operation, and earnings are to be kept for each system.

By the construction of the lines covered by Act No. 1905 a through railroad line to southeastern Luzon will be secured, the benefits of the Benguet climate will be more conveniently accessible, and by the construction of the port line at Manila the development of that port will be assured.

The railroad lines covered by Act No. 1510 and its modifications by Acts No. 1714 and 1905, are by the requirements of the latter Act, to be completed on September 12, 1918.

The formalities required by Act No. 1905 on the part of the Railroad Company have not yet been completed, but it is expected that they soon will be, and that the construction of the Manila Railroad lines will proceed as satisfactorily as before the financial troubles of the past eighteen months.

*Construction.*—Owing to adverse financial conditions throughout the world for the past eighteen months or two years, the construction of the lines of this Company, covered by Acts No. 1510 and 1714, have been materially retarded, so that during the fiscal year but 13.1 kilometers of grading were completed, 48.4 kilometers of track laid, and 66.0 kilometers of line put in operation.

In detail, the progress made from the beginning of work under the existing concession to the end of the fiscal year under consideration is given below:

### DAGUPAN-SAN FERNANDO LINE. (PORT LINE, SAN FERNANDO.)

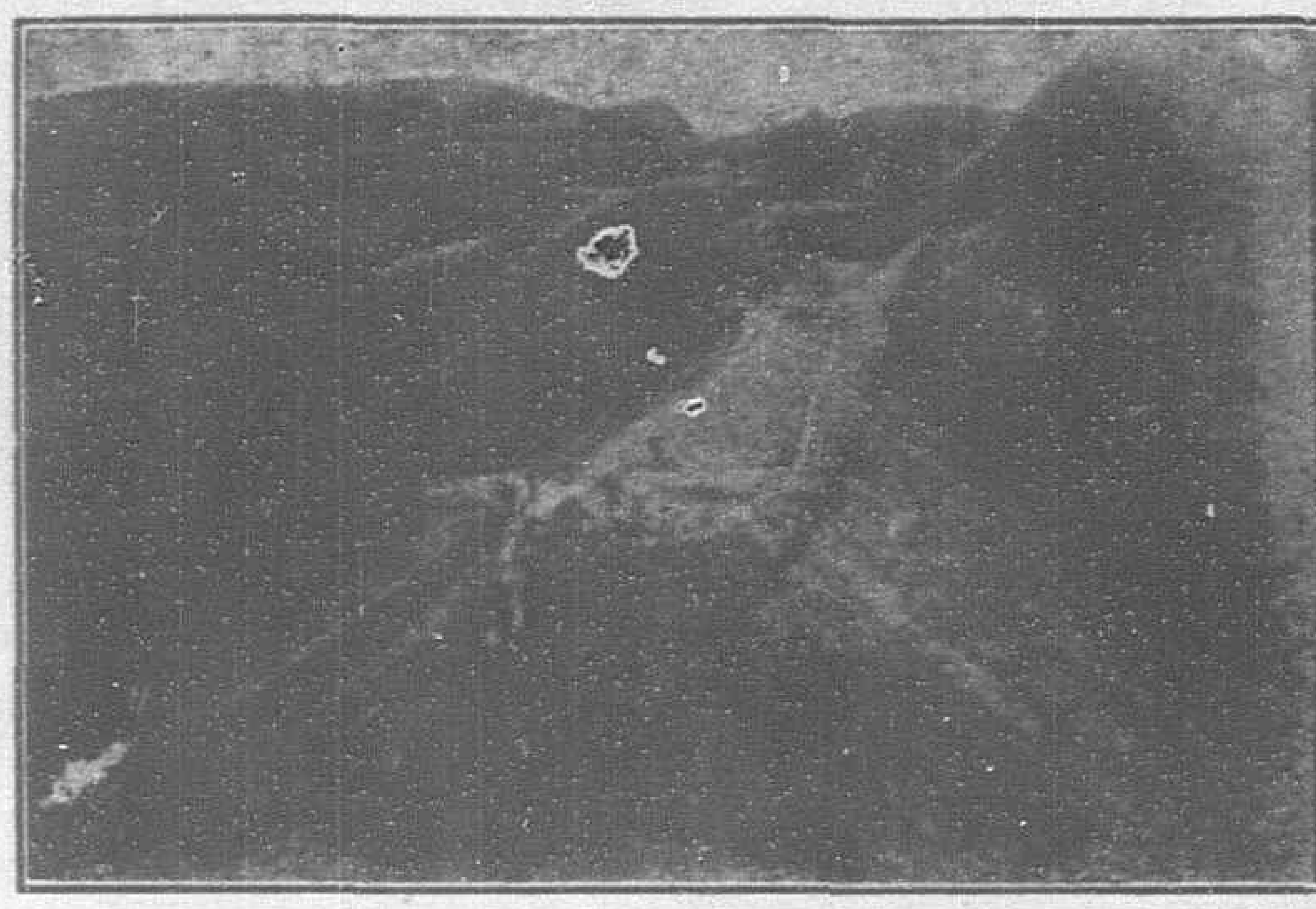
| | |
|---|---|
| Total length of line | 73.8 kilometers. |
| Location completed | 73.8 kilometers. |
| Plans presented to Government for approval | 73.8 kilometers. |
| Location approved by Governor-General | 73.8 kilometers. |
| Grading completed | 43.8 kilometers. |
| Track laid | 41.8 kilometers. |
| Line opened San Fabian to Rabon July 5, 1908 | 10.5 kilometers. |
| Line opened Rabon to Santo Tomas, Nov. 14, 1908 | 9.9 kilometers. |
| Line opened Sto. Tomas to Agoo Dec. 4, 1908 | 4.1 kilometers. |
| Track yet to lay | 32.0 kilometers. |

### CAMP ONE LINE.

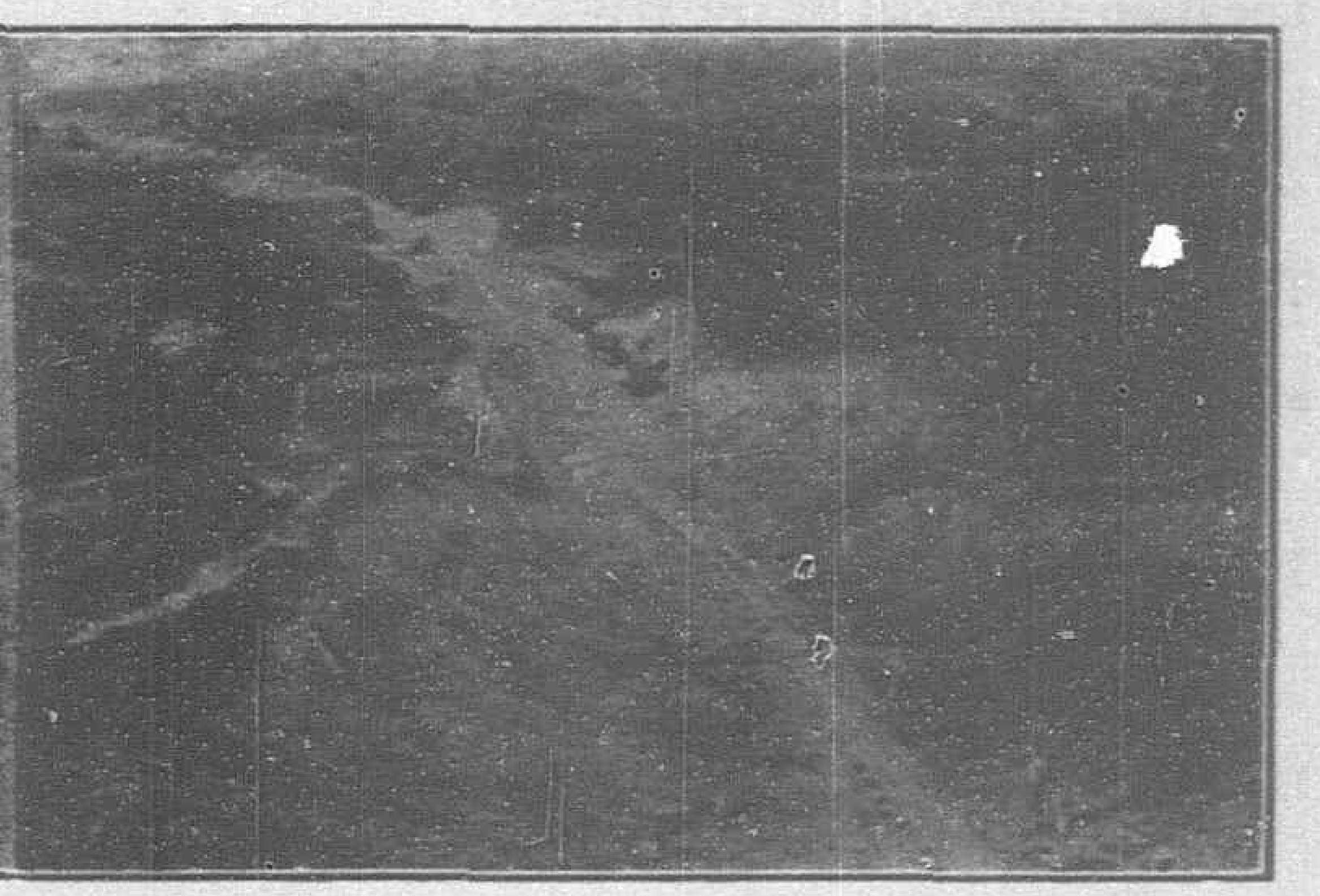
| | |
|---|---|
| Total length of line | 20.5 kilometers. |
| Nothing has been done on this line during the year. It was opened San Fabian to near Camp One March 23, 1908 | 19.4 kilometers. |

### PANIQUI-TAYUG LINE.

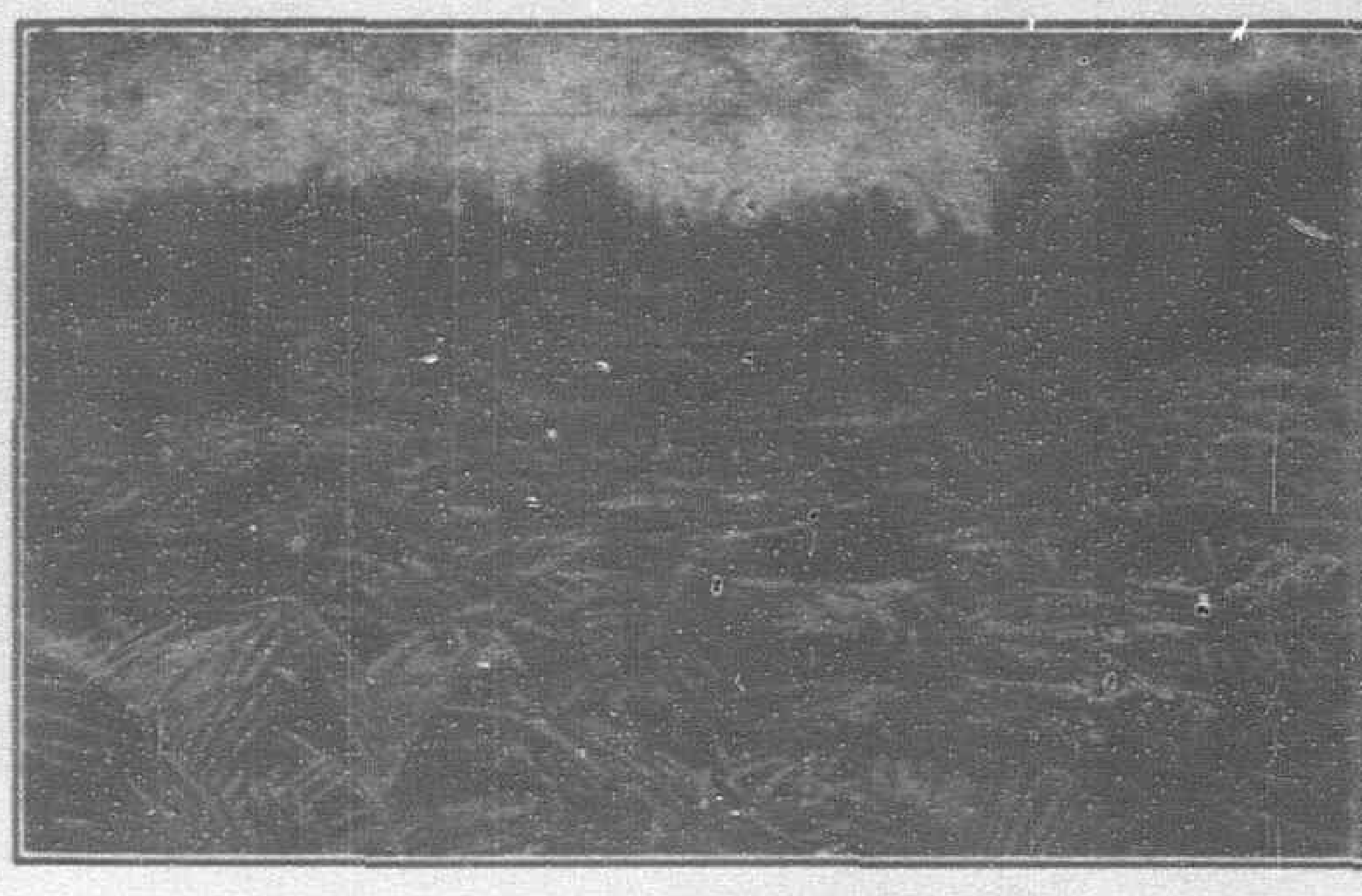
| | |
|---|---|
| Total length of line | 48.7 kilometers. |
| Surveys completed | 48.7 kilometers. |
| Plans presented for approval of Government | 30.0 kilometers |
| Location approved by Governor-General | 15.0 kilometers. |
| Grading completed | 21.4 kilometers. |
| Track laid | 15.0 kilometers. |
| Nothing has been done on this line during the year. It was opened Paniqui to Cuyapo-June 30, 1908 | 15.0 kilometers |



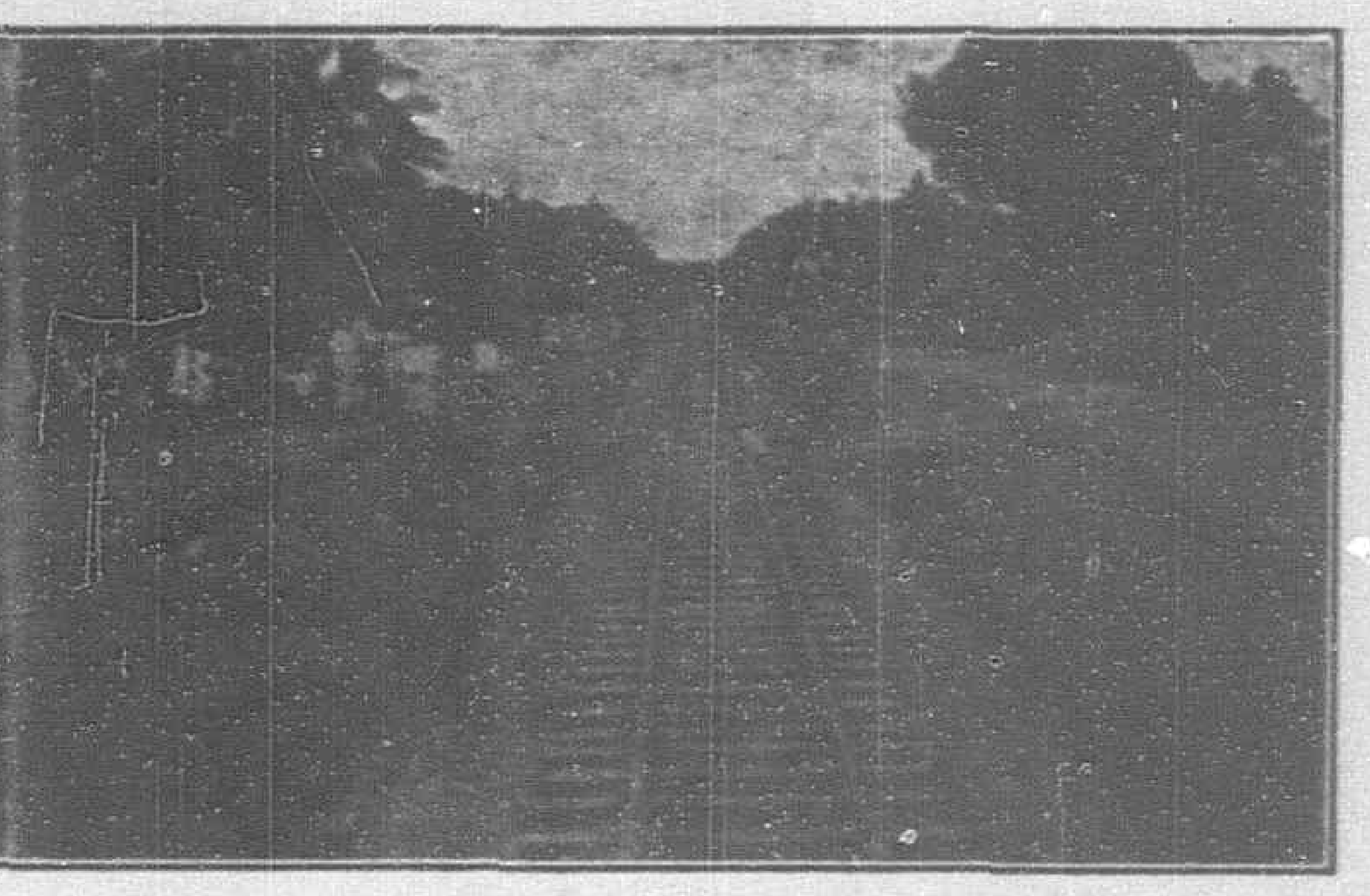
PHILIPPINE RAILWAY CO.—GENERAL VIEW SHOWING CHARACTER OF WORK IN CAPIZ PROVINCE



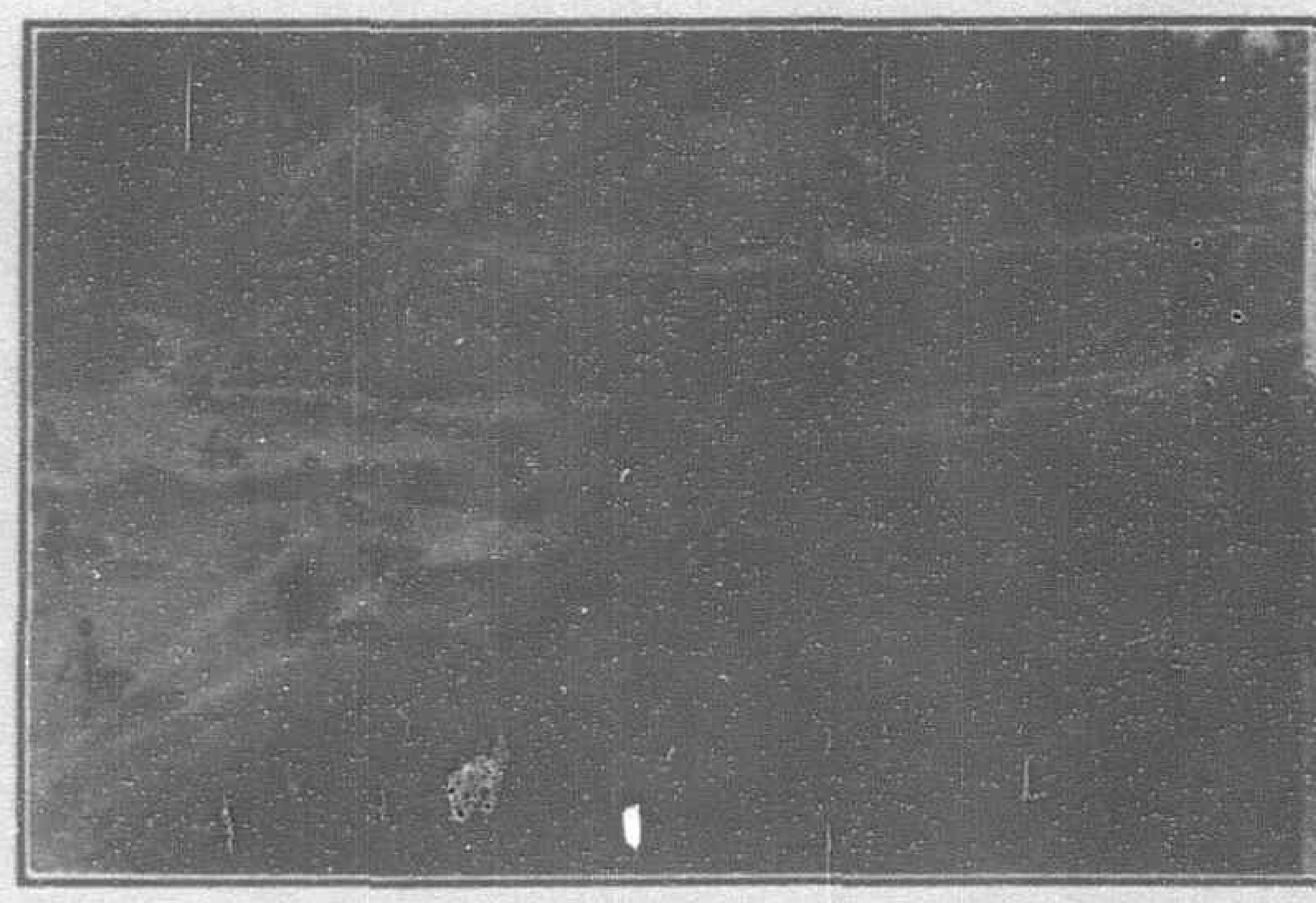
HEAVY WORK BETWEEN DUMARAO AND BUNTOG



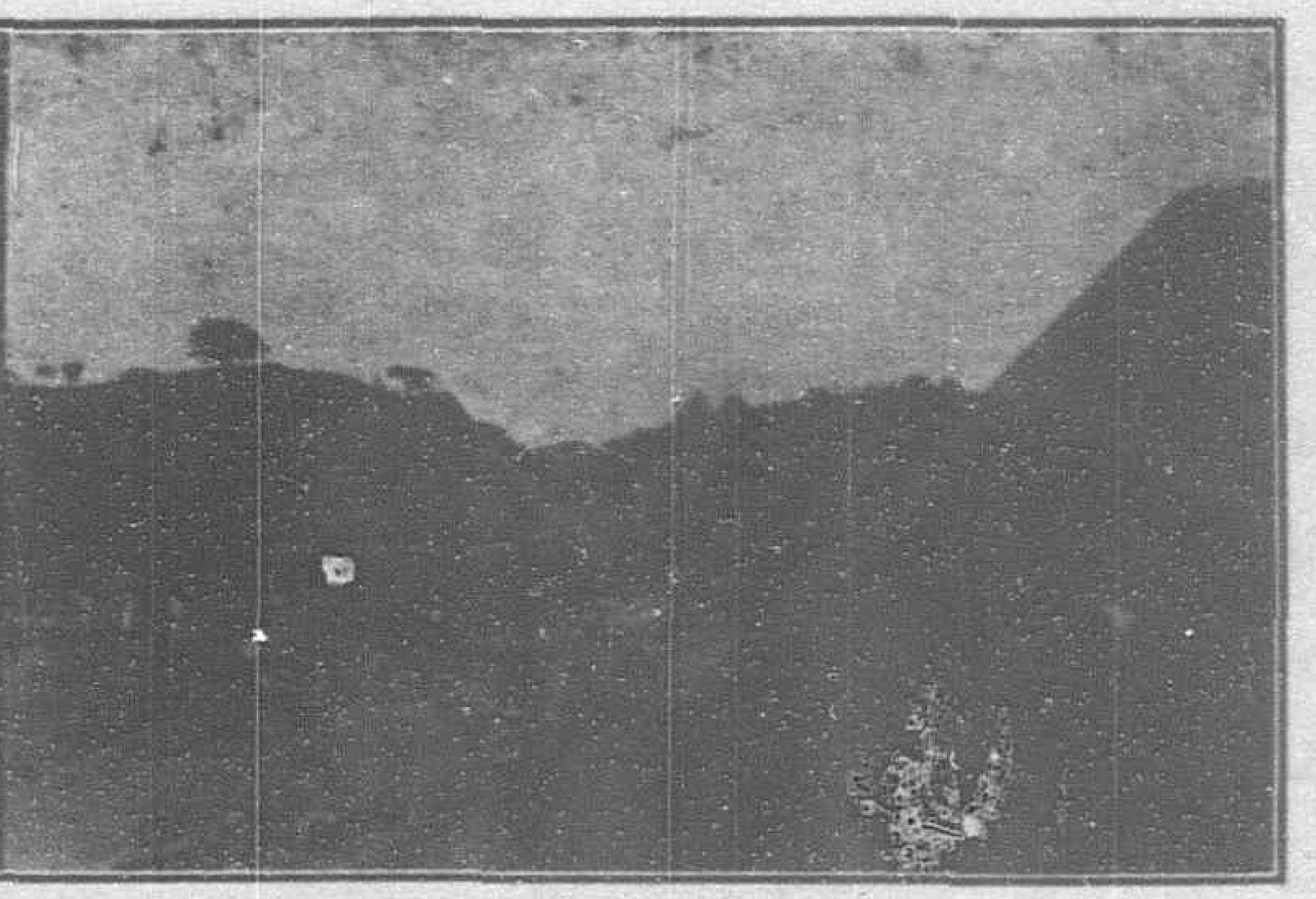
PHILIPPINE RAILWAY CO.—NIPA SWAMP ON RIGHT OF WAY WORTH ₱1,000 A HECTAREA.—SETTLES FROM 6 TO 10 FEET



STANDARD FINISHED TRACK SOUTH OF CEBU



HEAVY FILL SOUTH OF CEBU ON PHILIPPINE RAILWAY CO.'S LINE



HEAVY WORK BETWEEN DUMARAO AND BUNTOG WHERE SPURS RUNNING OUT FROM MOUNTAINS HAVE TO BE CROSSED

### SAN MIGUEL-LA PAZ LINE.

| | |
|---|---|
| Total length of line | 18.4 kilometers. |
| Survey completed | 18.4 kilometers. |
| Plans presented for approval of Government | 18.4 kilometers. |
| Location approved by Governor-General | None. |

This line has been examined by the Government, but approval of the plans presented is withheld at the request of the Railroad Company pending an investigation as to a revision of the location.

### DAU-MAGALANG LINE.

| | |
|---|---|
| Total length of line | 9.0 kilometers. |

This line is entirely completed and was opened December 20, 1907.

### SAN FERNANDO-FLORIDA BLANCA LINE.

| | |
|---|---|
| Total length of line | 24.5 kilometers. |

This line is entirely completed, the last section having been put in operation on April 10, 1908.

### SAN FERNANDO-ARAYAT LINE.

| | |
|---|---|
| Total length of line | 20.0 kilometers. |
| Survey completed | 20.0 kilometers. |
| Plans presented for approval of Government | 20.0 kilometers. |
| Location approved by Governor-General | 20.0 kilometers. |

No work has been done on this line.

### MARIQUINA-MONTALBAN LINE.

| | |
|---|---|
| Total length of line | 12.9 kilometers. |

This line is completed, and was put in operation April 17, 1907.

### ANTIPOLO LINE

| | |
|---|---|
| Total length of line to be contructed, covered by Act No. 1510 | 9.4 kilometers. |

This line is entirely completed and was opened December 24, 1908.

### BELT LINE, MANILA.

Total length of line (3.0 kilometers double track) 9.6 kilometers. Line is entirely completed and single line was put in operation in April, 1908.

### MANILA-CAVITE LINE.

(Way to Binacayan.)

| | |
|---|---|
| Total length of line | 32.7 kilometers. |

No work was done on this line during the year. It was opened to San Roque on May 24, 1908 .......... 32.0 kilometers.

### NAIC LINE.

| | |
|---|---|
| Total length of line | 19.9 kilometers. |
| Survey completed | 19.9 kilometers. |
| Plans presented for approval of government | 19.9 kilometers. |
| Location approved by the Governor-General | 19.9 kilometers. |
| Grading completed | 12.3 kilometers. |
| Track laid | None. |

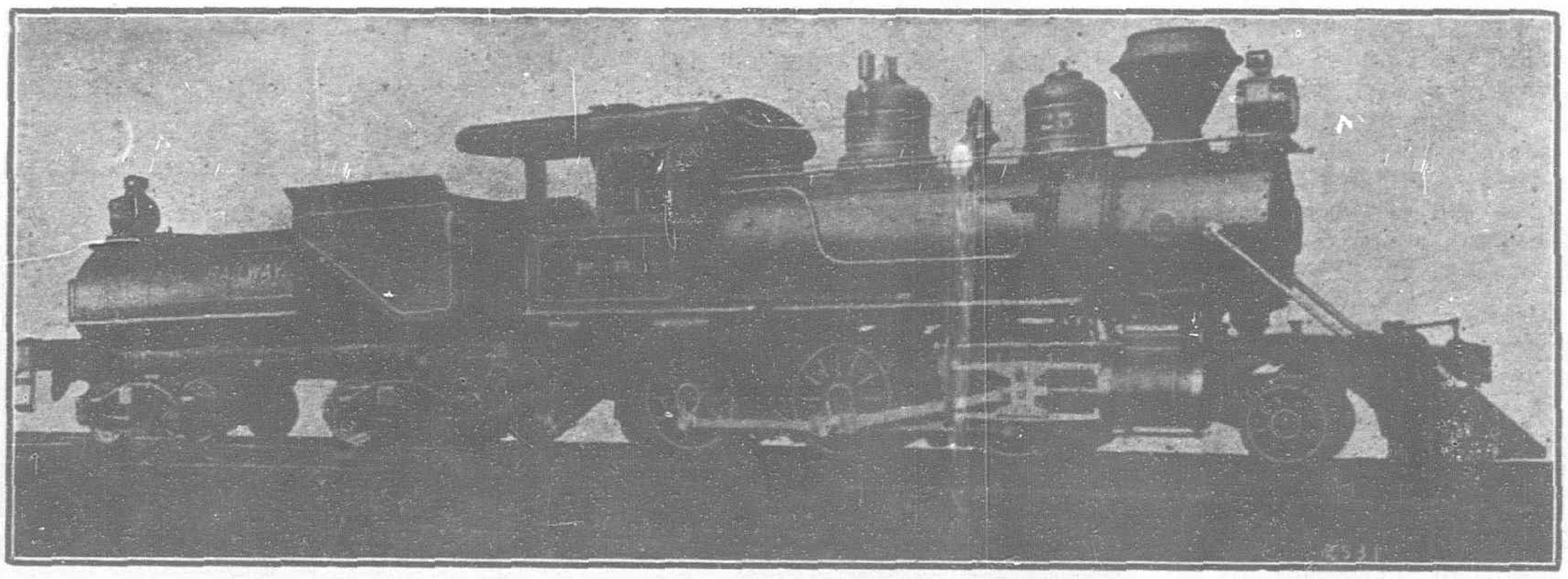
### CALAMBA-SANTA CRUZ-MAGDALENA LINE.

| | |
|---|---|
| Total length of line | 48.3 kilometers. |
| Survey completed | 19.3 kilometers. |
| Plans presented for approval of Government | 9.0 kilometers. |
| Location approved by the Governor-General | 9.0 kilometers. |
| Grading completed | 1.7 kilometers. |
| Track laid | None. |
| Line opened | None. |

### SANTO TOMAS (LUTA) LUCENA LINE. (LUCENA-PAGBILAO LINE.)

| | |
|---|---|
| Total length of line | 74.5 kilometers. |
| Survey completed | 63.2 kilometers. |
| Plans presented for approval of government | 63.2 kilometers. |
| Location approved by Governor-General | 63.2 kilometers. |
| Grading Completed | 9.5 kilometers. |
| Track laid | None. |
| Line Opened | None. |

30-TON RODGER BALLAST CAR FOR THE PHILIPPINE RAILWAY



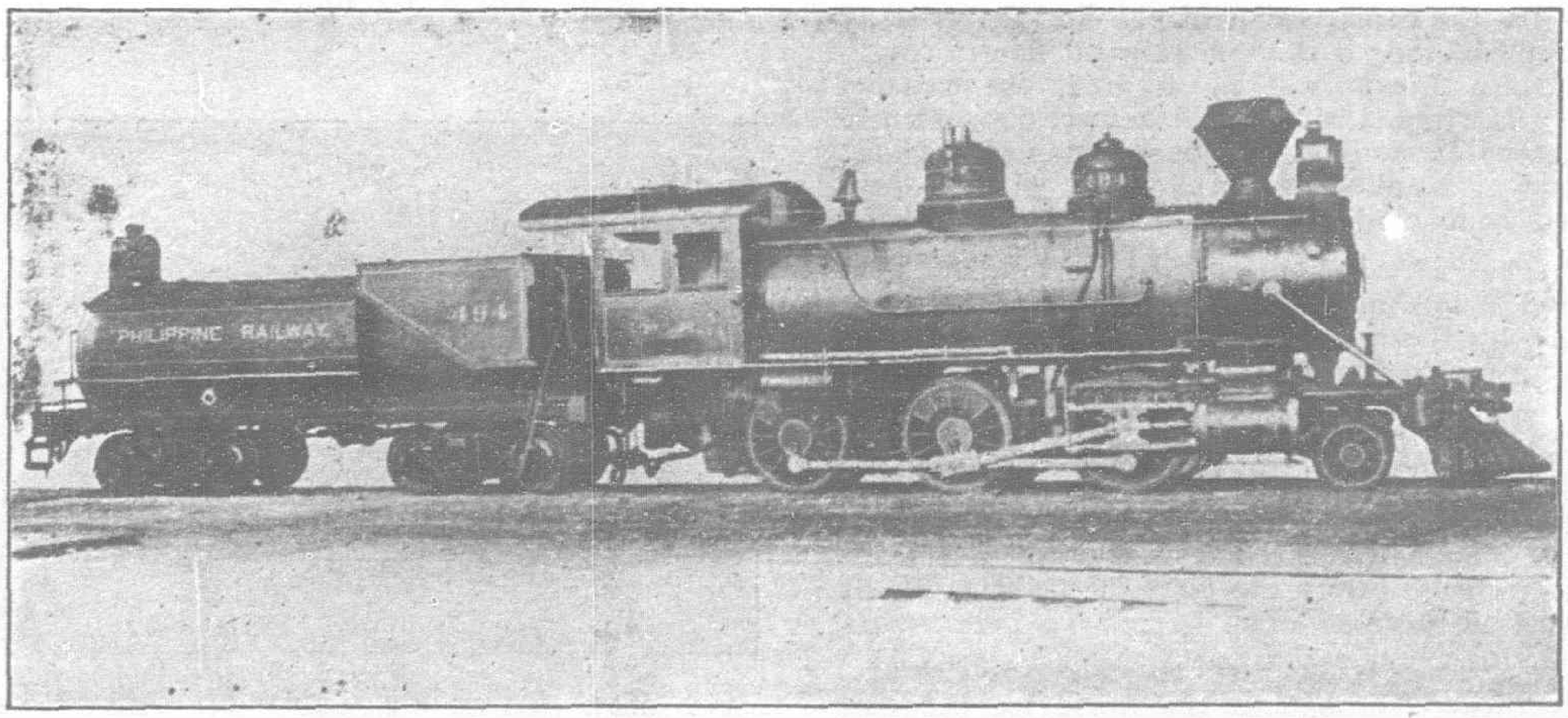
### MANILA-BATANGAS LINE.

(Batangas to Bauan; Port Line, Batangas; Camp McGrath Spur.)

| | |
|---|---|
| Total length of lines | 112.3 kilometers. |
| Surveys completed | 102.6 kilometers. |
| Plans presented for approval of the Government | 102.6 kilometers. |
| Location approved by Governor General | 102.6 kilometers. |
| Grading Completed | 86.2 kilometers. |
| Track laid | 57.2 kilometers. |
| Total line opened | 54.4 kilometers. |

*Line Opened*

| | |
|---|---|
| Muntinlupa to San Pedro Tunison, Aug. 1st, 1908 | 3.7 kilometers |
| San Pedro Tunison to Biñan, Sept. 2, 1908 | 4.0 kilometers. |
| Niña to Santa Rosa, October 10, 1908 | 4.5 kilometers. |
| Santa Rosa to Cabuyao, Nov. 7, 1908 | 3.5 kilometers. |
| Cabuyao to Calamba, Jan. 24, 1909 | 8.8 kilometers. |
| Calamba to Maquiling, June 13, 1909 | 7.6 kilometers. |
| Track yet to be laid | 55.2 kilometers. |



TYPES OF BALDWIN LOCOMOTIVES USED BY THE PHILIPPINE RAILWAY CO.

### LEGASPI-CAIMA BAY LINE.

(Legaspi to Tobaco, Legaspi Port Line, Tobaco Port Line, Ligao East, Tobaco West, Pili to

Lagonoy.)

| | |
|---|---|
| Total length of line | 240.5 kilometers. |
| Survey completed | 102.6 kilometers. |
| Plans presented for approval of government | 80.9 kilometers. |
| Location approved by Governor-General | 31.0 kilometers. |
| Grading completed | 16.0 kilometers. |
| Track laid | 1.0 kilometer. |
| Line opened | None. |

No work of any kind has been done on the particular lines covered by Act No. 1905.

Acts Nos. 1510 required the Manila Railroad Company to have 240 kilometers of its line completed on September 12, 1909.

It will be seen that on June 30th, 1909, the company had completed 231.8 miles of track, of which 216.1 kilometers are open and in operation, leaving 8.2 kilometers to be laid before September 12th, 1909, to fulfil the conditions of Acts Nos. 1510 and 1714

*Operation and Maintenance.*—The results of the operation and maintenance of this line for the year ended December 31st, 1908, compared with the previous year, with various statistics, follow:

### OPERATING EXPENSES. (C)

| | 1907 | 1908 | DECREASE | INCREASE. |
|---|---|---|---|---|
| Administration. | ₱ 96,796.11 | ₱ 115,345.85 | ........ | ₱18,549.74 |
| Traffic | 237,775.81 | 270,741.46 | ........ | 32,965.65 |
| Maintenance of Equipment | 369,958.20 | 385,625.41 | ........ | 15,667.21 |
| Maintenance of Way & Structures | 292,464.91 | 240,759.53 | ₱52,418.38 | ........ |
| Totals | ₱996,995.03 | ₱1,011,759.25 | ........ | ₱14,764.22 |

| | 1907 | 1908 | DECREASE | INCREASE. |
|---|---|---|---|---|
| Total Operating Revenue | ₱2,179,532.97 | ₱2,152,738.28 | ₱26,794.69 | ...... |
| Total operating Expenses | 996,995.03 | 1,011,759.25 | ...... | ₱14,764.22 |
| Net Operating Revenue | ₱1,182,537.94 | ₱1,140,979.03 | ₱41,558.91 | ...... |
| Taxes | 4,726.72 | 15,536.91 | ...... | ₱10,810.19 |
| Operating Income | ₱1,177,811.22 | ₱1,125,442.12 | ₱52,369.10 | ...... |
| Percentage of Operating Expenses to Operating Revenue | 45.7 | 47.0 | ...... | 1.3 |

### REVENUE FROM TRANSPORTATION (C)

| | 1907 | 1908 | DECREASE | INCREASE. |
|---|---|---|---|---|
| Freight Revenue | ₱ 820,476.17 | ₱ 741,846.12 | ₱78,630.05 | ...... |
| Passenger do | 1,331,245.48 | 1,352,029.58 | ...... | ₱20,784.10 |
| Mail do | 7,623.63 | 28,761.61 | ...... | 21,137.98 |
| Totals | ₱2,159,345.28 | ₱2,122,637.31 | ₱36,707.97 | ...... |

### REVENUE FROM OPERATION OTHER THAN TRANSPORTATION (C)

| | 1907 | 1908 | DECREASE | INCREASE. |
|---|---|---|---|---|
| Station and train Privileges | ₱ 3,599.21 | In rent of buildings, etc. | ₱ 3,599.12 | ........ |
| Switching revenue | In freight. | In freight. | ...... | ........ |
| Storage of baggage & freight. | 1,478.21 | In freight. | 1,478.21 | ........ |
| Rent of buildings and property | 15,110.27 | 20,100.97 | ...... | ₱14,990.70 |
| Totals | ₱ 20,187.69 | ₱ 30,100.97 | ...... | ₱ 9,913.28 |

### LENGTH OF LINES IN OPERATION

KILOMETERS

| | 1907 | | | 1908 | | |
|---|---|---|---|---|---|---|
| TERRITORY COVERED | MAIN LINE | SIDINGS | TOTAL | MAIN LINE | SIDINGS | TOTAL |
| Main Line: | | | | | | |
| Manila-Dagupan | 196.0 | 40.7 | 236.7 | 195.4(a) | 41.3 | 236.7 |
| Cabanatuan Branch: | | | | | | |
| Bigaa to Cabanatuan | 91.0 | 8.0 | 99.0 | 91.5(b) | 8.0 | 99.5 |
| Antipolo Branch: | | | | | | |
| Manila to Antipolo | 24.3 | | | 33.9 | 4.2 | 38.1 |
| Mariquina Branch: | | 4.0 | 45.8 | | | |
| Rosario to Montalban | 17.5 | | | 17.5 | 1.2 | 18.7 |
| Stotsenburg Branch: | | | | | | |
| Dau to Stotsenburg | 7.0 | 0.8 | 7.8 | 7.0 | 1.3 | 8.3 |
| Dau-San Pedro-Magalang | 9.0 | not given | 9.0 | 9.0 | 1.2 | 10.2 |
| San Fernando-Florida Blanca Branch | 10.4 | not given | 10.4 | 24.5 | 2.9 | 27.4 |
| Camp One Line | .... | .... | .... | 19.5 | 1.5 | 21.0 |
| Cavite Line | .... | .... | .... | 32.0 | 3.6 | 35.6 |
| San Fernando de Union Line | .... | .... | .... | 36.5 | 3.3 | 39.8 |
| Paniqui-Tayug Line | .... | .... | .... | 15.0 | 1.1 | 16.1 |
| Batangas Line, including Belt | .... | .... | .... | 41.0 | 4.2 | 45.2 |
| Totals | 355.2 | 53.5 | 408.7 | 522.8 | 73.8 | 596.6 |

---

(C) For the Main Line, Cabanatuan, Antipolo and Stotsenburg Branches only.

(a) Extension to San Fernando de Union leaves old main line at Kilometer No. 195.4; the remainder of the old main line, 0.6 kilometer, being now called a siding.

(b) Length of this line is given to the end of the track instead to center of Cabanatuan station as heretofore.

The increased length of lines operated during the year 1908 was 167.6 kilometers.

No rail was relaid on main line during the year and but little permanent bridge work was executed on operated lines. The track, except during the season of heavy rains and washouts which were unusual, was kept in excellent condition.

The result of operation was as follows:

| | 1907 | 1908 | DECREASE | INCREASE. |
|---|---|---|---|---|
| Passenger revenue per train kilometer | ₱1.802 | ₱1.168 | ₱0.634 | ...... |
| Freight revenue per train kilometer | 1.736 | 3.087 | ...... | ₱1.351 |
| Total revenue per train kilometer. | 1.909 | 1.493 | ₱0.416 | ...... |
| Operating Expenses per train kilometer | 0.877 | 0.712 | 0.165 | ...... |
| Net revenue per train kilometer. | 1.032 | 0.781 | 0.251 | ...... |
| Passenger revenue per kilometer of line | 3,972.91 | 4,113.17 | ...... | 140.26 |
| Freight revenue per kilometer of line | 2,434.64 | 2,209.85 | 224.79 | ...... |
| Miscellaneous revenue per kilometer of line | 59.91 | 89.67 | ...... | 29.76 |
| Total revenue per kilometer of line | 6,467.46 | 6,412.69 | 54.77 | ...... |
| Operating Expenses per kilometer of line | 2,958.34 | 3,013.88 | ...... | 55 54 |
| Net revenue per kilometer of line | 3,509.12 | 3,398.81 | 110.31 | ...... |
| Average amount received per kilometer per passenger | 0.0176 | 0.0202 | ...... | 0.0026 |
| Average amount received for each passenger | 0.4988 | 0.5088 | ...... | 0.0100 |
| Average amount received for each ton of freight per kilometer | 0.0329 | 0.0320 | 0.0027 | ...... |
| Average amount received for each ton of freight | 2.4625 | 2.3052 | 0.1573 | ...... |
| Average haul per passenger, kilometers | 28.00 | 25.00 | 3.00 | ...... |
| Average haul per ton of freight, kilometers | 77.00 | 76.00 | 1.00 | ...... |
| Passengers hauled one kilometer | 69,797,436 | 58,276,903 | 11,520,533 | ...... |
| Tons of freight hauled one kilometer | 24,054,286 | 19,253,495 | 4,800,791 | ...... |

### THE EQUIPMENT OF THIS LINE CONSISTS OF:

| | 1907 | 1908 | DECREASE | INCREASE. |
|---|---|---|---|---|
| Passenger and freight engines | 58 | 72 | ...... | 14 |
| First Class Passenger Cars | 9 | 9 | ...... | ...... |
| First and second class passenger cars | 10 | 10 | ...... | ...... |
| Second class Passenger Cars | 10 | 10 | ...... | ...... |
| Third Class Passenger Cars | 77 | 86 | ...... | 9 |
| Inspection Cars | 2 | 2 | ...... | ...... |
| Freight Cars | 908 | 1046 | ...... | 138 |
| Miscellaneous Cars | 52 | 67 | ...... | 15 |

Accidents during the year: 38 class A, serious; 30 class B, not serious; and 93 class C, minor.

Interruptions to the operations of line on account of washouts, baguios, etc., were numerous during the year, two interruptions occurring in May, two in July, eight in August, seven in October and one in November. The baguios of October were most severe, traffic being interrupted on 28 kilometers of line on October 6th.

Note: The report of the operation of the Manila Railroad Company is for the year ended December 31st, 1908.

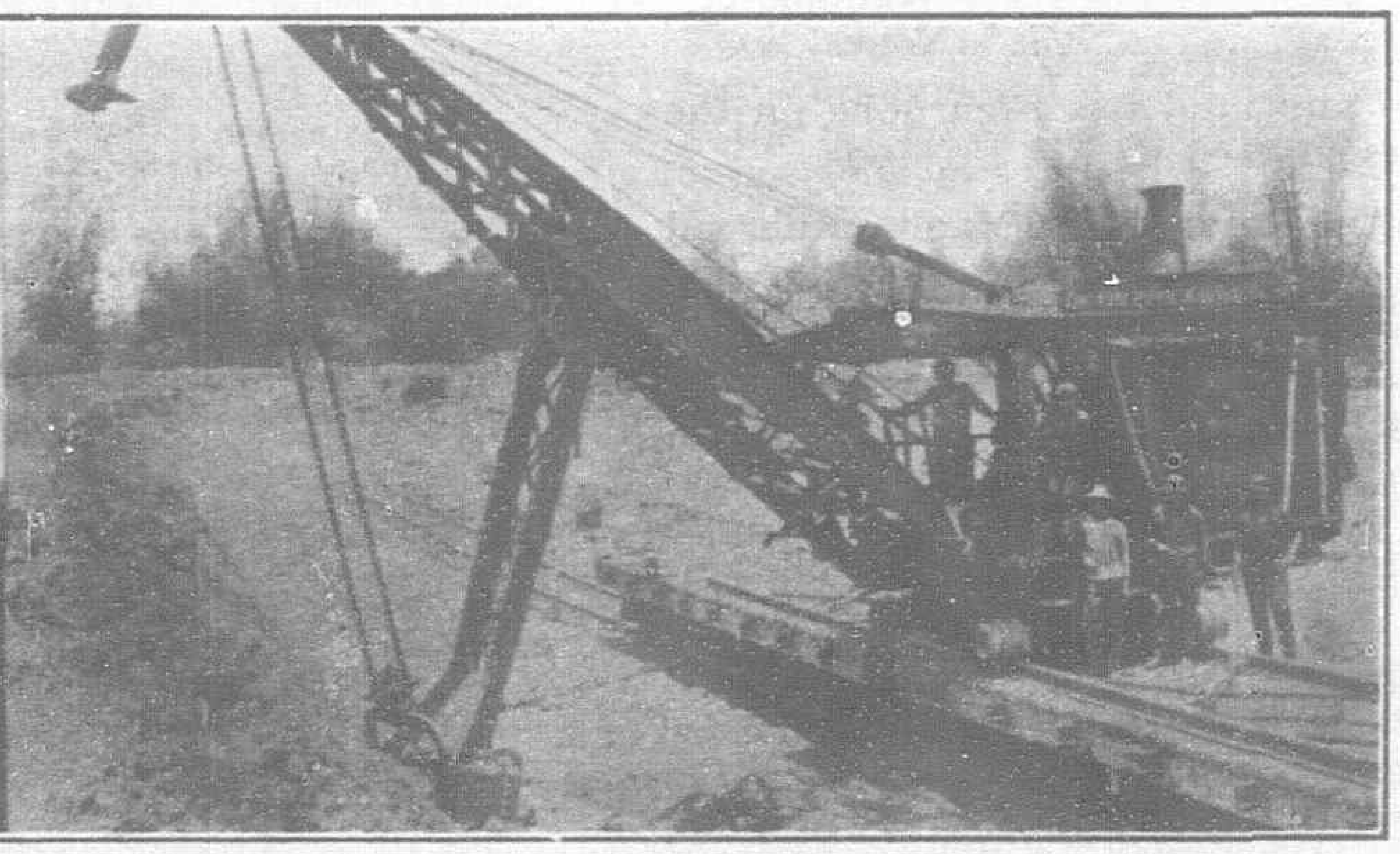
# Philippine Railway Company

By Act No. 1889 of May 8, 1909, the Philippine Legislature amended paragraph three of subsection one of section one of Act No. 1497 to read:

> "On the Island of Negros; (b) A line in "the Island of Negros, from the munici"pality of Saravia on the northwest coast "of said Island, southerly to Cabancalan, "a distance of approximately seventy"five miles."

This relieves the Philippine Railway Company from the construction of a railway line on the north coast of the Island of Negros from Escalante to Saravia, but extends the original concession southerly from Himamailan to Cabancalan.

PHILIPPINE RAILWAY CO.—RIVETING OUTFIT IN USE ON CONSTRUCTION WORK



DITCHING MACHINE LOADING GRAVEL AT SANTA BARBARA FOR LAPUS YARD FILLING.—INDISPENSABLE FOR CLEARING OUT SLIDES IN CUTS

The amendment as above was accepted by the Railway Company on June 8, 1909.

ISLAND OF CEBU.—*Construction.*—Although the laying of the main line track on this island was completed on May 15th, 1908, and a line put in operation in September, 1907, the construction works in other respects had not been completed on June 30th, 1909.

No attempt to start the final ballasting of the line was made until October, 1908, but at the end of the year little more remained to complete the work.

In addition to finishing the ballasting, there yet remained to complete the construction of the line, the erection of three or four short bridges, the painting of all the bridges with the final coat, the finishing of the wharf track at Cebu, the furnishing of additional equipment which has been ordered and a number of miscellaneous jobs.

Certifications for the issuance of bonds covering the construction of this line to the end of the fiscal year have been made as follows:

| DATE OF CERTIFICATION | FIRST BOND SECTION 32.0 KILOMETERS | SECOND AND PARTIAL BOND SECTION 63.0 KILOMETERS | TOTAL |
|---|---|---|---|
| Previous Fiscal Years.. | $1,320,000.00 | $1,091,000.00 | $3,411,000 |
| July 28, 1908.......... | 56,000.00 | 145,000.00 | 201,000 |
| October 23, 1908...... | 2,000.00 | 101,000.00 | 103,000 |
| December 24, 1908.... | 20,000.00 | 138,000.00 | 158,000 |
| March 16, 1909........ | 19,000.00 | 39,000.00 | 58,000 |
| June 16, 1909.......... | 26,000.00 | 83,000.00 | 109,000 |
| Totals............ | $1,443,000.00 | $1,597,000.00 | $3,040,000 |

The above values are in U. S. Currency.

So far as the issuance of bonds is concerned this line has cost, therefore, for the 95.0 kilometers constructed (59.4 miles) 64,000 pesos per kilometer or $51,178.45 per mile.

ISLAND OF PANAY.—*Location.*—The location of the railroad line on this island has been approved by the Governor-General, except for the terminal at Batan, the plans for which have not yet been presented.

*Grading and Tracklaying.*—The grade on June 30th, 1909, was completed from Iloilo north 69.4 kilometers (43.1 miles) and tracklaying has been completed for the same distance.

Grading was progressing satisfactorily from end of track and at various points along the line to Capiz from which point south there were 1.9 kilometers of completed grade with materials on hand for the laying of about 15.0 kilometers of track.

*General.*—Temporary ballasting has been completed for 67.8 kilometers (42.1 miles) Final ballasting begun in May, 1909, was completed for 8.4 kilometers (5.2 miles).

The shop buildings at Lapus (Iloilo) were completed, except the round-house and a few of the smaller buildings, with the station buildings for the 64.0 kilometers in operation nearly completed and in service.

Permanent bridge work, with the exception of a few small structures, was completed to Passi, 53.0 kilometers.

*Bonds.*—Certificates for the issuance of bonds on this island to the end of the fiscal year have been made as follows:

| CERTIFICATION | FIRST BOND SECTION, 32.2 KILOMETERS | SECOND BOND SECTION, 32.2 KILOMETERS | TOTAL. |
|---|---|---|---|
| Previous Fiscal Years. | $1,359,000.00 | .......... | $1,359,000 |
| July 28, 1908.......... | 89,000.00 | .......... | 89,000 |
| October 23, 1908...... | 142,000.00 | .......... | 142,000 |
| December 24, 1908.... | 142,000.00 | $1,073,000.00 | 1,073,000 |
| March 16, 1909........ | .......... | 35,000.00 | 35,000 |
| Total............ | $1,732,000.00 | $1,108,000.00 | $2,840,000 |

So that, so far as authorization of bonds is concerned, the two bond sections on this island had cost to June 30th, 1909, for the 64.4 kilometers (40.0 miles) covered, at the rate of ₱88,198.76 per kilometer, or $71,000.00 a mile. This cost of kilometer should be reduced somewhat when all the sections are completed, as the heavy expenditures for the Iloilo terminal will then be distributed over the whole line but the large amount of grading necessary to be done on the north end of the line will work against any large amount of reduction in the cost per unit of line.

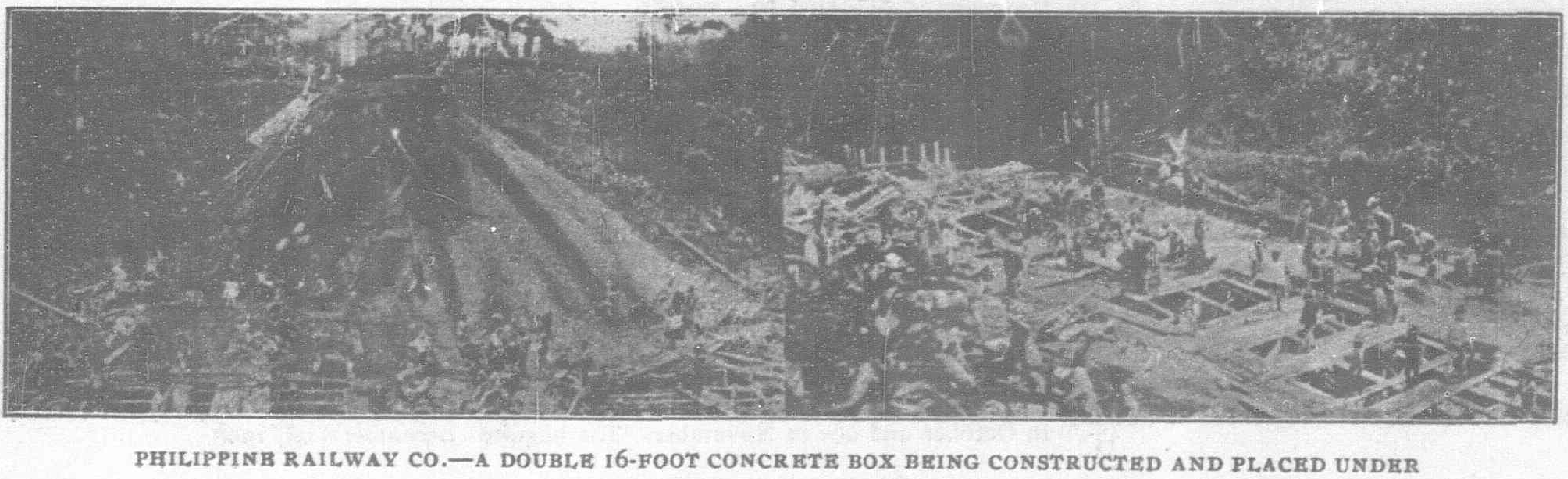
ISLANDS OF NEGROS.—No work of construction has been done on this island The Governor-General has approved the location of the line except for the terminal at Bacolod, plans for which have not been presented.

*Summary.*—The total amount of grading done by this company during the year was 28.5 kilometers and the track laid during the same period was 24.0 kilometers.

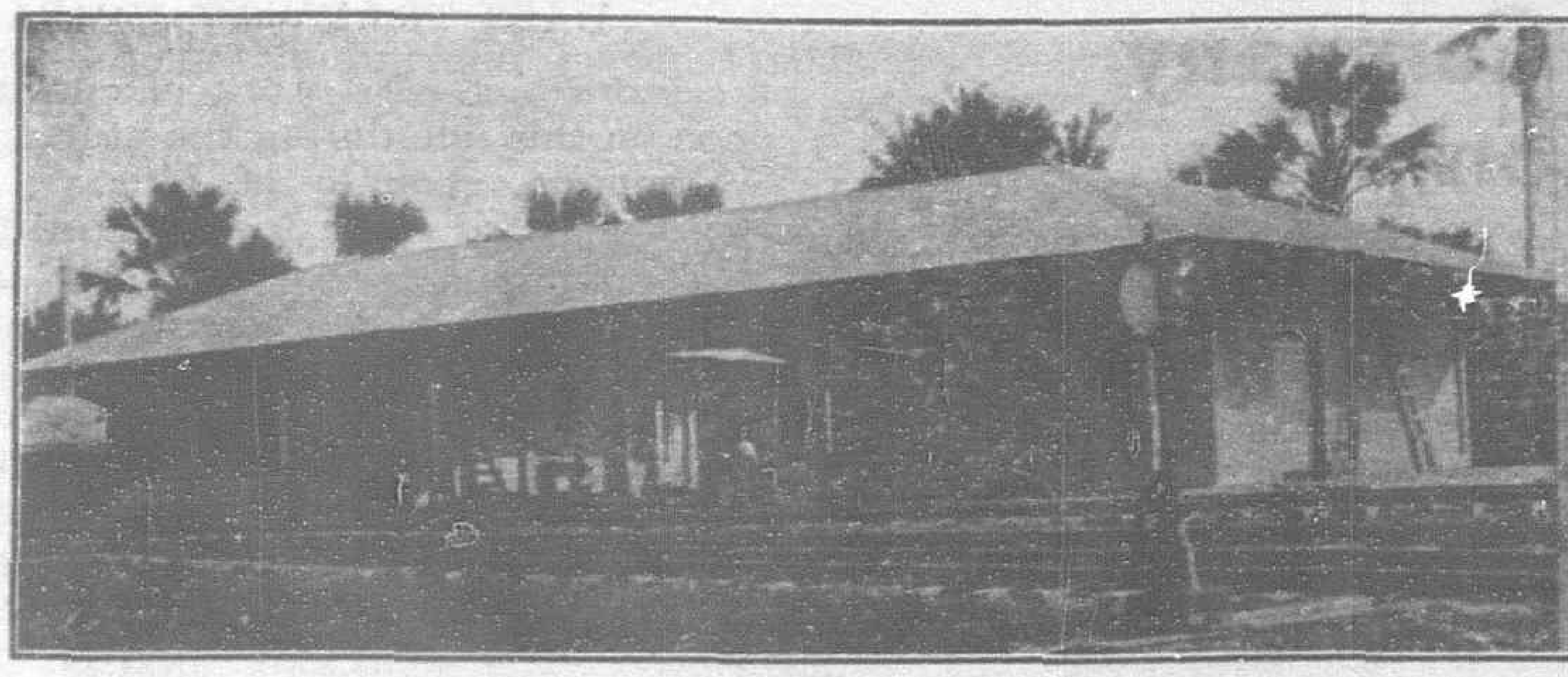
*Operation.*—At the end of the fiscal year this railroad company had in operation 95.0 kilometers (59.4 miles) of track on the island of Cebu and 64.4 kilometers (40.0 miles) on the island of Panay, with 5.0 kilometers (3.0 miles) of track laid but not in operation on the latter island.

During the year one section of 32.2 kilometers (20.0 miles) on the island of Panay as certified for commercial operation on March 16th, 1909.

None of the lines of the Philippine Railway Company were in full commercial operation during the fiscal year, the cost of operation being charged and the earnings therefrom being credited to construction account. On July 31st, 1909, instructions were given that as of July 1st, 1909, the Philippine Railway Company line on Cebu should be considered in full operation.

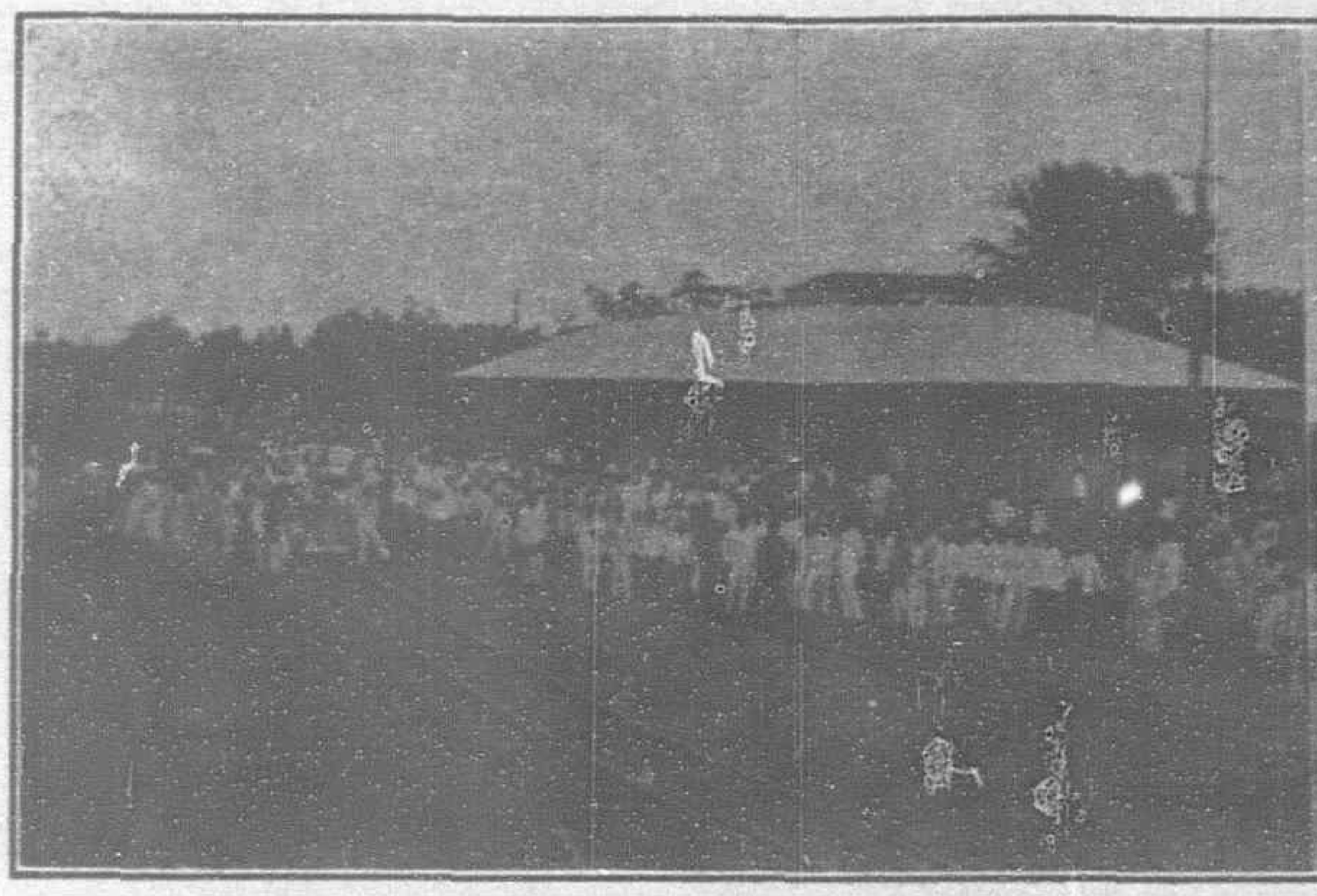


PHILIPPINE RAILWAY CO.—A DOUBLE 16-FOOT CONCRETE BOX BEING CONSTRUCTED AND PLACED UNDER 10,000 YARD FILL IN PANAY

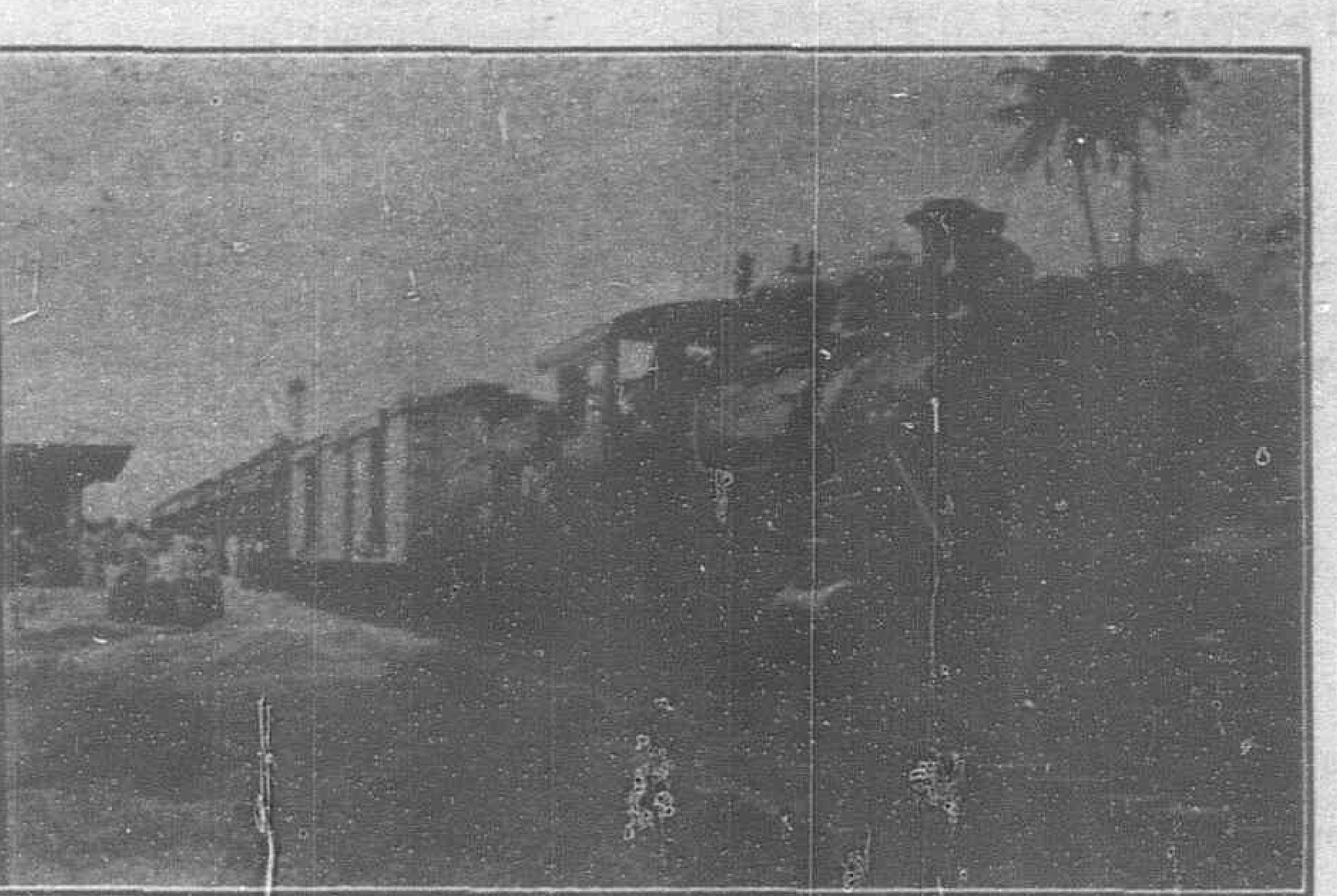


PHILIPPINE RAILWAY CO.—STANDARD SECOND CLASS STATION OF REINFORCED CONCRETE

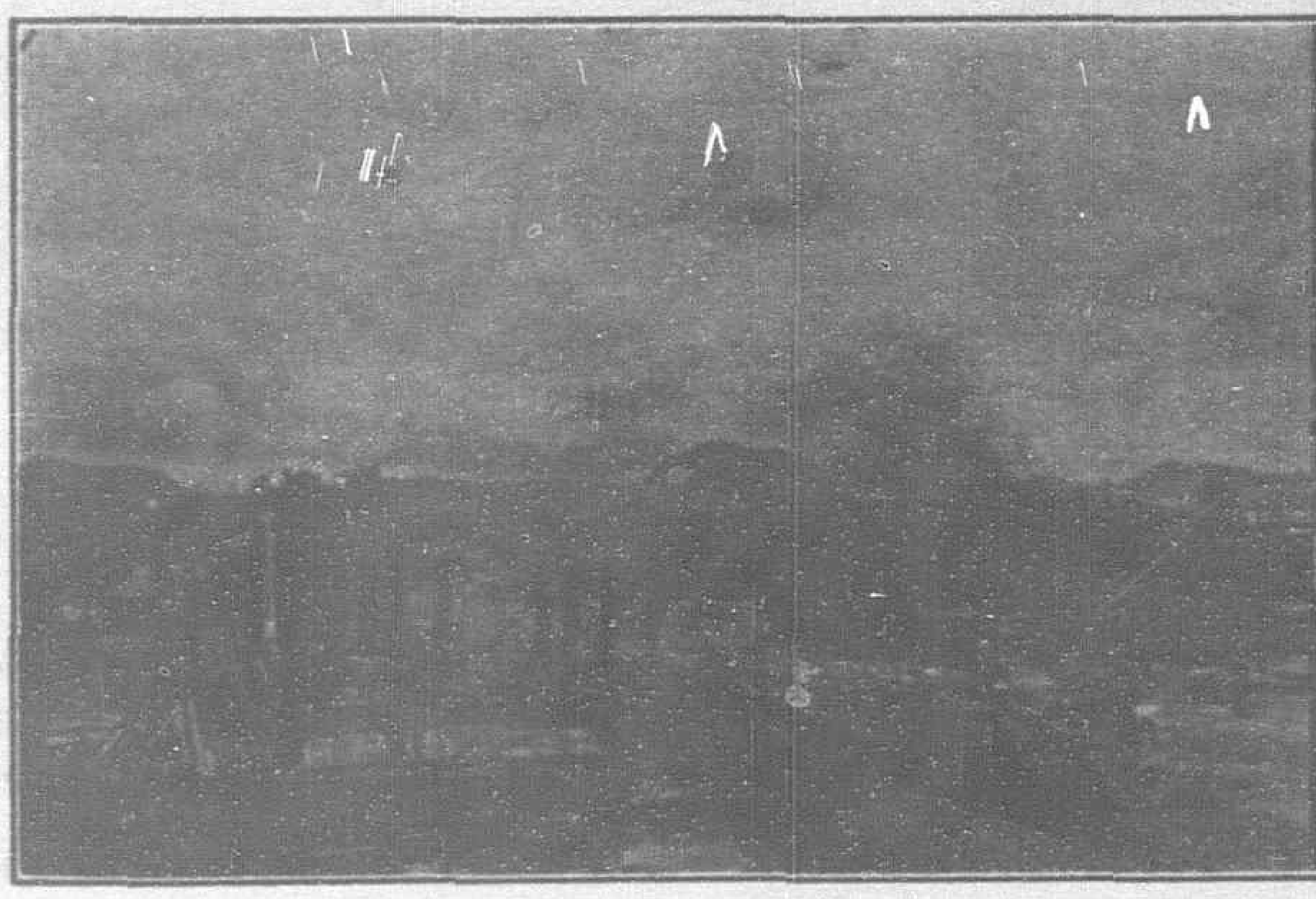
STANDARD THIRD CLASS STATION BUILT OF REINFORCED CONCRETE



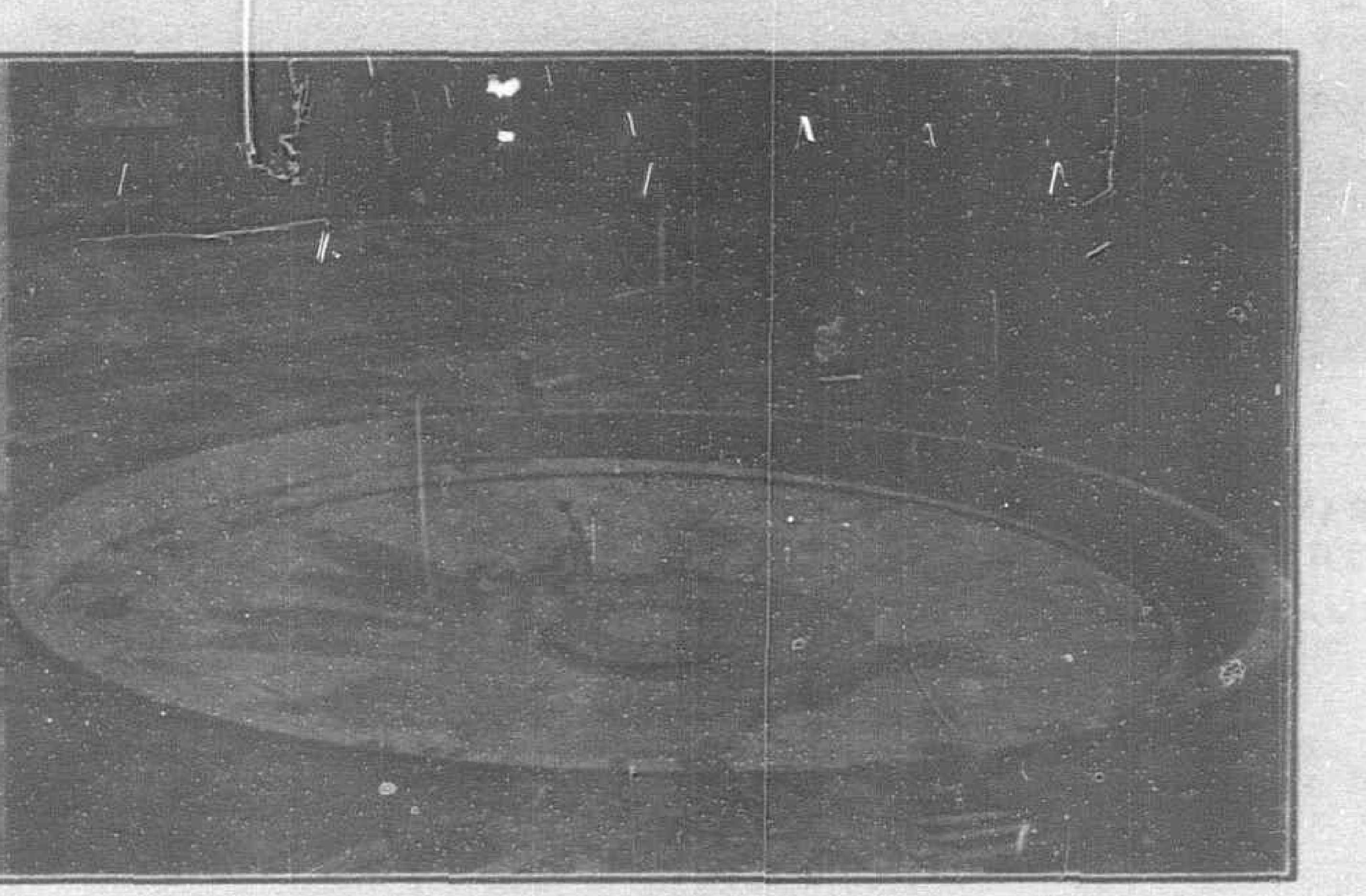
PHILIPPINE RAILWAY CO.—FIESTA CROWD WAITING FOR TRAIN AT CARCAR ON CEBU LINE



B CLASS BALDWIN LOCOMOTIVE WITH MIXED TRAIN OF 20 TONNE CARS AND 1ST AND 2ND CLASS COACH



PHILIPPINE RAILWAY CO.—DETAIL OF CAPIZ TERMINAL SHOWING SITES OF STATION, WAREHOUSES, ETC.



TURNTABLE PIT CEBU YARD

PHILIPPINE RAILWAY CO.—MASONRY FOR TWO 50-FOOT SPANS NEAR LUCENA, PANAY

GRADING LOCOMOTIVE BEING DRAGGED 2 5 MILES BY MEN OVER COUNTRY TO NEW WORK.—NO ANIMALS AVAILABLE—20 CARS CARRIED SAME DISTANCE

# Manila Electric Railroad and Light Company and the Manila Suburban Railway Company

*Construction.*—No work of construction was done on either of these lines during the year. It is probable, however, that the work of constructing the line from near Fort McKinley to Taguig on the Laguna de Bay, authorized by Act No. 1589 of February 1st, 1907, will commence during the year ending June 30th, 1910.

*Operation.*—The results of the operation of these lines for the fiscal years 1908 and 1909 follow:

### REVENUE AND COST OF OPERATION

| | F. Y. 1908 | F. Y. 1909 | Decrease | Increase. |
|---|---|---|---|---|
| Revenue from Transportation. | ₱991,668.31 | ₱948,822.97 | ₱42,845.34 | ...... |
| Miscellaneous Revenue....... | 68,946.96 | 77,553.23 | ...... | ₱8,606.27 |
| | ₱1,060,615.27 | ₱1,026,376.20 | ₱34,239.07 | ...... |
| Operating Expenses Maintenance of Way and Structures.. | ₱50,497.60 | ₱80,502.83 | ...... | ₱30,005.23 |
| Maintenance of Equipment..... | 90,876.17 | 94,810.22 | ...... | 3,934.05 |
| Traffic and Transportation Expense.......... | 304,162.98 | 211,286,06 | ...... | ...... |
| Genera Expense and Taxes..... | 113,862.03 | not given | valueless. | |
| Total Operating Expenses...... | ₱569,398.03 | ₱594,662.78* | ...... | ₱25,264.00 |
| Net Operating Revenue....... | ₱491,216.49 | ₱431,713.42 | ₱59,503.07 | ...... |
| Percentage of Operating Expenses to Gross Revenue........... | 53.7 | 53.9 | ...... | 4.2 |

* Estimated.

| | Fiscal Year 1908 | | | |
|---|---|---|---|---|
| | Main Line | Second Track | Sidings | Total |
| Kilometrage....... | 39.8 | 17.2 | 6.2 | 63.2 |

| | Fiscal Year 1909 | | | |
|---|---|---|---|---|
| | Main Line | Second Track | Sidings | Total |
| Kilometrage....... | 39.8 | 17.2 | 6.2 | 63.2 |

### GENERAL INFORMATION

| | F. Y. 1908 | F. Y. 1909 | Decrease | Increase. |
|---|---|---|---|---|
| Total number of Paying Passengers Carried.... | 10,701,859 | 10,437,841 | 264,018 | ...... |
| Average earnings per passenger... | 0.099 | 0.096 | 0.01 | ...... |
| Average expense per passenger... | 0.053 | 0.057 | ...... | 0.004 |
| Equipment consists of: | | | | |
| Motor Cars..... | 105 | 105 | ...... | ...... |
| Work Cars..... | 1 | Not given | ...... | ...... |
| Wrecking Cars.. | 1 | Not given | ...... | ...... |
| Water Sprinkler.. | 1 | 1 | ...... | ...... |

### MANILA SUBURBAN RAILWAY COMPANY

LENGTH OF LINES

| | Fiscal Year 1908 | | | |
|---|---|---|---|---|
| | Main Line | Second Track | Sidings | Total |
| Kilometrage....... | 9.9 | .... | 1.7 | 11.6 |

| | Fiscal Year 1909 | | | |
|---|---|---|---|---|
| | Main Line | Second Track | Sidings | Total |
| Kilometrage....... | .... | .... | 1.7 | 11.6 |

| | F. Y. 1908 | F. Y. 1909 | Decrease | Increase. |
|---|---|---|---|---|
| Revenue from Transportation.- | ₱157,228.81 | ₱189,212.70 | ...... | ₱31,984.19 |
| Miscellaneous Revenue...... | 1,204.04 | 1,543.30 | ...... | 339.26 |
| Total Operating Revenue....... | ₱158,432.55 | ₱190,756.00 | ...... | ₱32,323.45 |
| *Operating Expenses.* | | | | |
| Maintenance of Way and Structures.......... | ₱ 600.38 | ₱ 8,856.36 | ...... | ₱ 8,256.08 |
| Maintenance of Equipment..... | 407.40 | 527.91 | ...... | 120.51 |
| Traffic and Transportation Expense.......... | 59,732.72 | valueless | ...... | ...... |
| General Expenses and Taxes...... | 11,213.90 | valueless | ...... | ...... |
| Total Operating Expenses and Taxes......... | ₱ 71,954.30 | ₱ 95,823.99* | ...... | ₱23,869.69 |
| Net Operating Revenue....... | ₱ 86,478.25 | ₱ 94,932.01 | ...... | ₱8,483.76 |
| Percentage of Operating Expenses to Gross Revenue....... | 45.5 | 50.2 | ...... | 4.7 |

---

* Estimated.

### GENERAL INFORMATION

| | F. Y. 1908 | F. Y. 1909 | Decrease | Increase. |
|---|---|---|---|---|
| Total number of Paying Passengers Carried.... | ₱2,087,786 | ₱2,702,227 | ...... | 614,441 |
| Average Earnings per passenger... | 0.075 | 0.070 | 0.005 | ...... |
| Average Expense per passenger... | 0.034 | 0,035 | ...... | 0.001 |
| Equipment consists of: | | | | |
| Motor Cars..... | 6 | 6 | ...... | ...... |
| Motor Freight Cars | 3 | 3 | ...... | ...... |
| Flat Cars......... | 4 | 4 | ...... | ...... |

## TARLAC RAILWAY CO.

*Construction.*—No construction work was done on this line during the year.

*Operation.*—The results of the operation of this line for the fiscal years 1908 and 1909 were as follows:

### OPERATING EXPENSES

| | 1908 | 1909 | Decrease | Increase. |
|---|---|---|---|---|
| Paid Manila R. R. Co., Traffic Expenses......... | ₱11,528.99 | ₱12,941.96 | ...... | ₱1,412.97 |
| Administration and Maintenance of Way and Structures..... | 4,218.08 | 19,205.74 | ...... | 14,987.66 |
| Totals....... | ₱15,747.07 | ₱32,147.70 | ...... | ₱16,400.63 |

| | 1908 | 1909 | Decrease | Increase. |
|---|---|---|---|---|
| Operating Revenue........... | ₱23,057.98 | ₱25,883.92 | ...... | ₱2,825.94 |
| Operating Expenses............ | 15,747.07 | 32,147.70 | ...... | 16,400.63 |
| Net Operating Revenue....... | ₱7,310.91 | ₱6,263.78(a) | ₱13,574.69 | ...... |
| Taxes........... | 339.80 | 382.52 | ...... | 42.72 |
| Operating Income | ₱6,971.11 | ₱6,646.30(a) | ₱13,617.41 | ...... |
| Percentage of Operating Expenses to Operating Revenue....... | 68.3 | 124.2 | ...... | 55.9 |

---

(a) Deficit.

This company owns no equipment. No accidents reported.

### LENGTH OF LINES

| | Kilometers | | | |
|---|---|---|---|---|
| | F. Y. 1908 | F. Y. 1909 | Decrease | Increase. |
| Panique to Camaling........... | 20.58 | 20.58 | ...... | ...... |

### REVENUE FROM TRANSPORTATION AND OPERATION

| | 1908 | 1909 | Decrease | Increase. |
|---|---|---|---|---|
| Freight, passenger, Mail and Miscellaneous revenue | ₱23,057.98 | ₱25,883.92 | ...... | ₱2,825.94 |

In view of the materials used in the construction of this line, it has been maintained in fair condition during the year. Numerous washouts have occurred, however, and until more permanent concrete bridge structures are erected and embankments strengthened, these washouts and interruptions to traffic will occur.

## INSULAR COAL COMPANY

The Insular Coal Company having failed to accept the provisions of Act No. 1835 of May 21, 1908, in the time specified in said Act through no fault of its own, the Philippine Legislature, by Joint Resolution No. 16 of May 19, 1909, approved, ratified and confirmed the receipt and acceptance of certain letters from the Managing Director, and a resolution of the Board of Directors of said Company, by the Secretary of Commerce and Police as an acceptance of the provisions of said Act.

A statement of the condition of construction and the results of operation of the Railroads of the Philippine Islands is given below for the fiscal year ended June 30, 1909, unless otherwise stated, with statistics in relation thereto.

## DAET TRAMWAY COMPANY.

*Construction.*—No work of construction was done on this line during the year.

*Operation.*—Length of Line:

| | Kilometers. | | | |
|---|---|---|---|---|
| | 1908 | 1909 | *Decrease.* | *Increase.* |
| Daet to Mercedes.... | 7.24 | 7.24 | .... | .... |

### REVENUE FROM OPERATION

| | F. Y. 1908 | F. Y. 1909 | Decrease | Increase |
|---|---|---|---|---|
| Freight Revenue.. | ₱11,008.16 | ₱12,966.92 | ....... | ₱1,958.7 |
| Passenger Revenue........... | 3,282.85 | 3,731.48 | ....... | 448.6 |
| Mail Revenue .... | 240.00 | 240.00 | ....... | ..... |
| Total Revenue.... | ₱14,531.01 | ₱16,938.40 | ....... | ₱ 2,407.3 |

### OPERATING EXPENSES

| | 1908 | 1909 | Decrease | Increase |
|---|---|---|---|---|
| Maintenance of Way & Structures.......... | ₱1,469.32 | ₱1,436.12 | ₱ 33.20 | ..... |
| Maintenance of Equipment..... | 337.26 | 378.09 | ....... | 40.8 |
| Conducting Transportation....... | 4,965.54 | 4,923.97 | 41.57 | ..... |
| General Expenses and Taxes..... | 5,936.32 | 5,804.55 | 131.77 | ..... |
| Net Operating Expenses...... | 12,708.44 | 12,542.73 | 165.71 | ..... |
| Total Operating Revenue....... | 14,531.01 | 16,938.40 | ....... | 2,407.3 |
| Total Operating Expenses...... | 12,708.44 | 12,542.73 | 165.71 | ..... |
| Operating Income | 1,832.57 | 4,395.67 | ....... | 2,573.1 |
| Percentage of Operating Expenses to Revenue.......... | 88 | 74 | 14 | ..... |

---

During the year 13,245 passengers and 4,869 tons of freight were handled.

## SUMMARY

A summary of the grading and tracklaying completed, with the kilometerage of lines put in operation during the year, is shown in the following table:

| Road | Grading Completed | Track Laid | |
|---|---|---|---|
| Manila Railroad Co........... | 13.1 | 48.4 | 65. |
| Manila Electric R. R. & L. Co... | ........ | ........ | ...... |
| Manila Suburban Railways Co... | ........ | ........ | ...... |
| Tarlac Railway Co.......... | ........ | ........ | ...... |
| Daet Tramway Co........... | ........ | ........ | ...... |
| Philippine Railway Co.......... | 28.5 | 24.0 | 32. |
| Insular Coal Co............. | ........ | ........ | ...... |
| Totals.................... | 41.6 | 72.4 | 98. |

In the following table is shown kilometerage of railroad lines authorized by law in the Philippine Islands, with the length constructed, to be constructed, and in operation on June 30th, 1909:

| Road | Authorized | Constructed and in operation | Constructed and not in operation | To b Cons truct ed |
|---|---|---|---|---|
| Manila Railroad Co.. | 1,355.0 | 545.8 (a) | 9.1 | 800. |
| Manila Electric R. R. & Light Co....... | 45.0 | .... | .... | 5. |
| Manila Suburban Railway Co......... | 19.9 | 9.9 | .... | 10. |
| Tarlac Railway Co... | 20.6 | 20.6 | .... | ... |
| Daet Tramway Co... | 7.2 | 7.2 | .... | ... |
| Philippine Railway Co. | 368.6 (b) | 159.4 | .... | 204. |
| Lepanto Mining Co... | 42.0 | .... | .... | 42. |
| Insular Coal Co..... | 12.0 | 12.0 | .... | ... |

(a) Includes Belt Line, Manila, not included last year.

(b) Excludes North Negros Line and Carcar-Barili-Dumanju Branch.

Of the Northern System lines of the Manila Railroad Company as defined in Act No. 1905 and authorized by Act No. 1510, 462.4 kilometers has been built, leaving 104.2 kilometers yet to build, making a total of 566.6 kilometers; of the Southern System lines, as defined in the above Act and authorized by Acts Nos. 1510, 1714 and 1905, 93.4 kilometers have been built, with 695.0 yet to build, or a total of the Southern System lines of 788.4 kilometers.

# The "North Britisher" in the Far East

The Locomotive Engineer in the Far East has long been well acquainted with the productions of the North British Locomotive Company, Limited,—the Glasgow firm in which have been merged the interests of Messrs. Neilson, Reid & Co., Messrs. Dubs & Co., and Messrs. Sharp, Stewart & Co., names all of good repute for sound British design, material and workmanship.

It is with pleasure that we herewith give some little account of their doings in these regions, and we hope in the near future to be enabled to supplement it by what will be of equal interest, viz: some notes on their "up-to-date" work for, amongst others, the great Railway systems of the Argentine, Brazil, Chili and Peru, and for the Railways of the British Colonies and India.

In the Far East the North British Locomotive Company's connection with *Japan* was initiated in 1871, when Messrs. Dubs & Co. and Messrs. Sharp, Stewart & Co. delivered the first locomotives to arrive in that country, and this connection has been maintained until up to the present time upwards of 600 Engines constructed by them are now on Japanese soil.

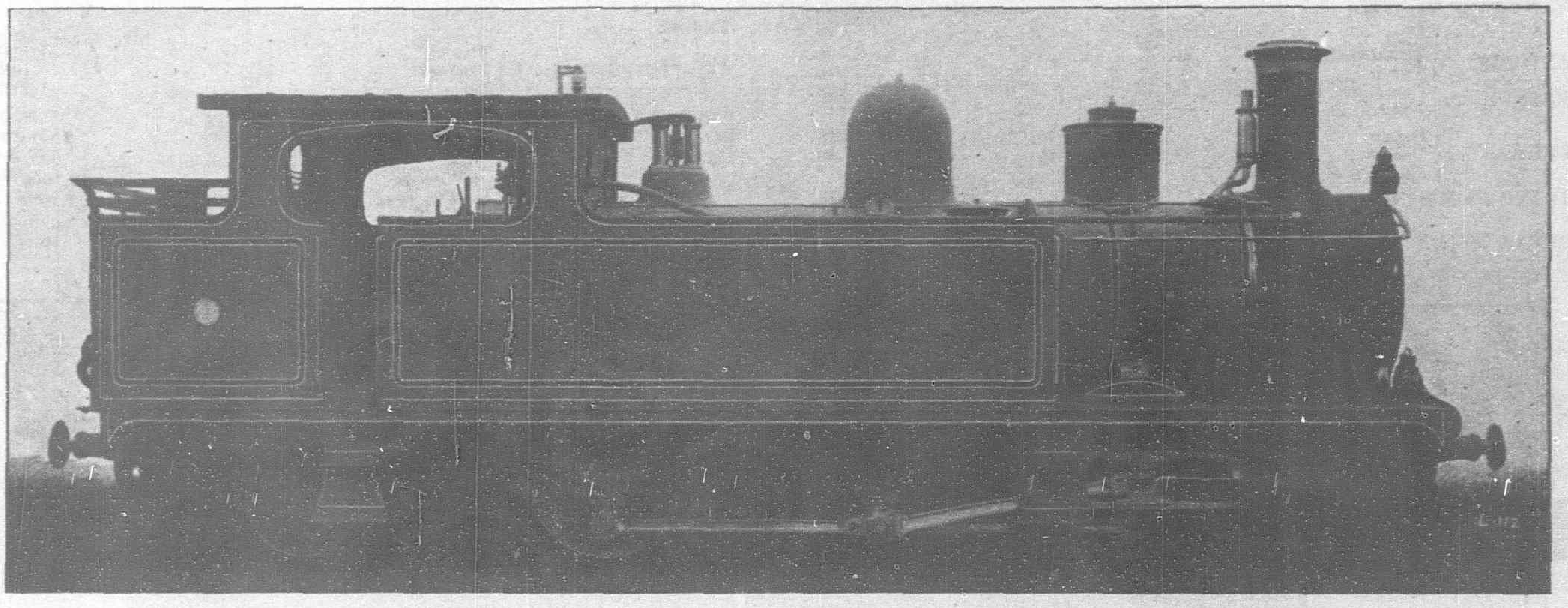
The various types supplied would alone give material for an interesting article, but we restrict ourselves meanwhile to Photographs Nos. L.112 and L.285, illustrating two types of Engines that have been delivered recently, the former being the standard "mixed - traffic" Tank Engine, and the latter a Passenger Engine with Tender.

In *CHINA* the firm's connection dates back to 1887, when the pioneer locomotives "Speedy Peace" and "Flying Victory"—tiny machines with cylinders 5" diameter and weighing each only about 5 tons—were sent into that Empire, to meet, however, with an untimely fate. The commercial entry came in the same year with the locomotives for working the coal mines in Tongshan under Mr. Kinder's supervision. Since that date they have supplied the greater number of the Engines for the *Imperial Railways of North China*, and two types, Photos. 4355 and L.199, are herewith illustrated, the former being the 17" "Mogul" type, and the latter the 18" "Passenger" type. The Tenders, which are not shown on the photos, are of the double bogie type, and carry 3,200 gallons of water and 3½ tons of coal.

The latest type of Engine sent out for the *Imperial Railways* is the "Mallet" for the recently opened *Kalgan* route, and these powerful Engines, four of which have been supplied, are shown on Photo. No. L.274. This, it may be explained, is not a new type of Engine, but one which has stood the test of long service on many of the European Railways. It has attained, however, in recent years, considerable notoriety through its adoption in the United States, and the successful results obtained there. The Engine is really a double-engine with one boiler, and on long grades it has the merit of doing away with the "double heading" of trains, an important feature on the Kalgan Railway where a grade of 1 in 30, 12 miles long, has to be surmounted. As will be seen from the illustration, the forward engine with its six coupled wheels is arranged on a bogie, thus giving the necessary flexibility to the wheel base for the passage of the curves.

The hind engine with its six coupled wheels is arranged on the main frame which as in usual practice also carries the Boiler, Cab, etc. It has also to be noted that the Engine is a "Compound" the forward cylinders being low pressure and the hind high pressure, the Tender which is not shown on the photo, is of the double bogie type and carries 3,200 gallons of water and 3½ tons of coal.

For the *Canton-Kowloon Railway* and for the *Tientsin-Pukow Railway*, locomotives of the *Mogul* type, as illustrated above for the North China Railway, but of a more powerful class,



*Reference No. L 112*

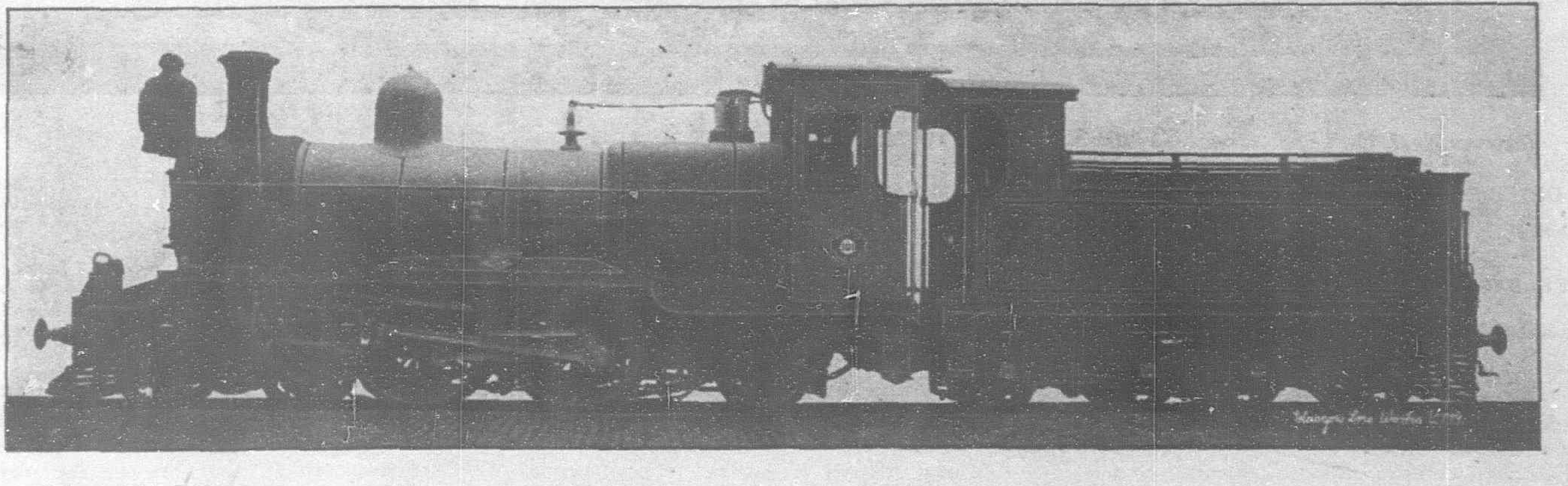
GAUGE 3′ 6″—**IMP. RAILWAYS OF JAPAN**

| | |
|---|---|
| Diam. of Cylinder | 16″.—Stroke, 24″ |
| Heating Surface, in Tubes | 906.2 Sq. Ft. |
| Heating Surface, in Firebox | 93.6 Sq. Ft. |
| Total | 999.8 Sq. Ft. |
| Area of Firegrate | 14.4 Sq. Ft. |
| Working Pressure | 160 Lbs. Per. Sq. In. |
| Diam. of Wheels | 4′.1″ and 3′.2″ |

Axles and Tyres of Steel.—Firebox of Copper.

Boiler fed by 1 No. 7 and 1 No. 8 Injector.—Tubes of Brass.

| | |
|---|---|
| Capacity of Tanks | 1716 Galls. |
| Fuel Space | 76 Cub. Ft. |
| Coupled Wheel Base | 12′.6″ |
| Total, Wheel Base | 19′.9″ |
| Weight, Empty | 37 Tons. 6 Cwts. |
| Weight, Full | 49 Tons, 10 Cwts |



*Reference No.L 179*

GAUGE OF RAILWAY, 3-ft. 6-in.

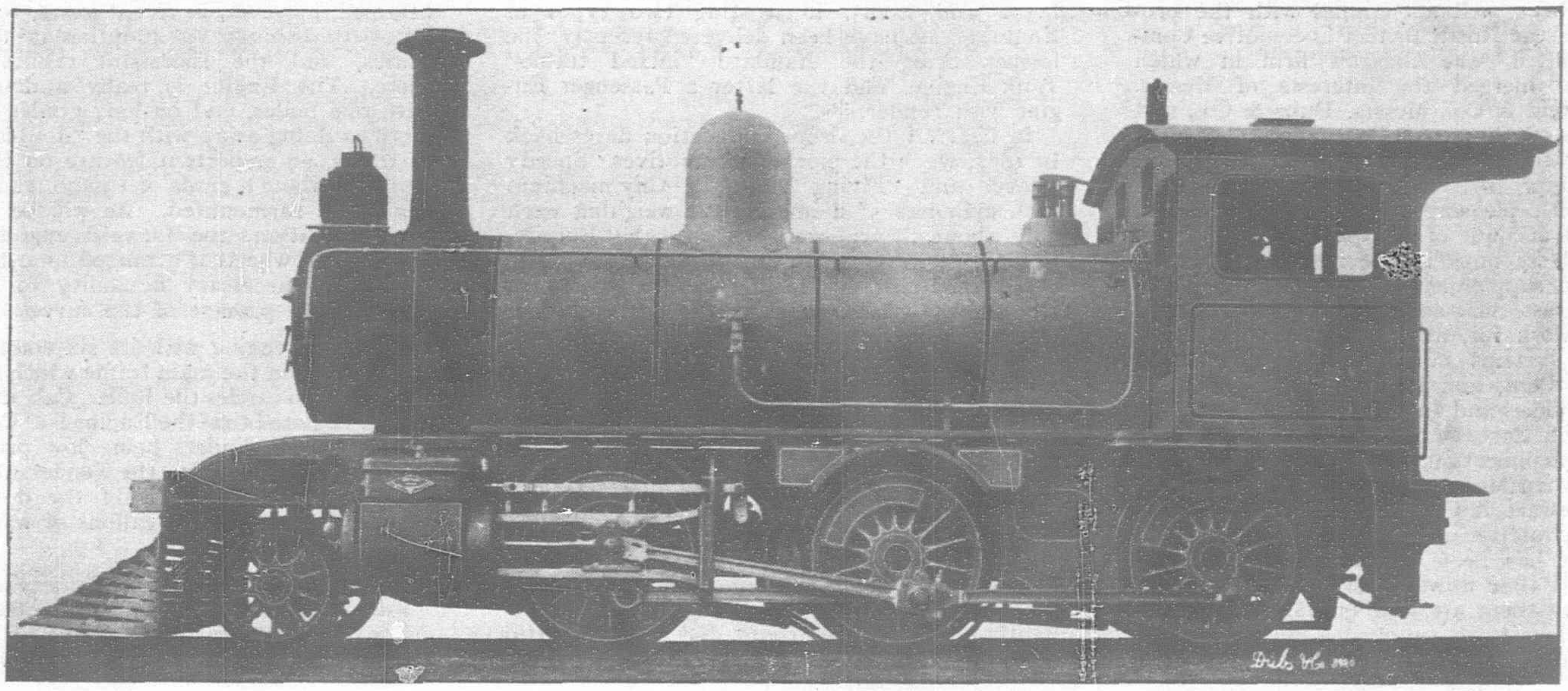
Type, 4-4-2.—**ENGINE**

| | | |
|---|---|---|
| CYLINDERS | Diameter | 16-in. |
| | Stroke | 24-in. |
| WHEELS | Coupled, Diameter | 5-ft 0-in. |
| | Front, Diameter | 2-ft. 7½-in. |
| | Hind, Diameter | 3-ft. 4½-in. |
| WHEELBASE | Rigid | 12-ft. 0-in. |
| | Total | 21-ft. 2-in. |
| | Engine & Tender | 43-ft. 6½-in. |
| WORKING PRESSURE | | 180-lbs. per sq. in. |
| HEATING SURFACE | Tubes | 973 sq. ft. |
| | Firebox | 107 sq. ft. |
| | Total | 1.080 sq. ft |
| FIREGRATE AREA | | 16.5 sq. ft. |
| BOILER FEED | | 2 Injectors & 1 Pump. |
| TRACTIVE FORCE at 75% of Boiler Pressure | | 13.824-lbs. |
| WEIGHT | In Working Order | 40 tons 16 cwts. |
| | On Coupled Wheels | 21 tons 6 cwts. |

**TENDER**

| | |
|---|---|
| TANK Capacity | 2,500 gallons. |
| FUEL Space | 180 cub. ft. |
| WEIGHT, Full | 32 tons 6 cwts. |

# NORTH BRITISH LOCOMOTIVES



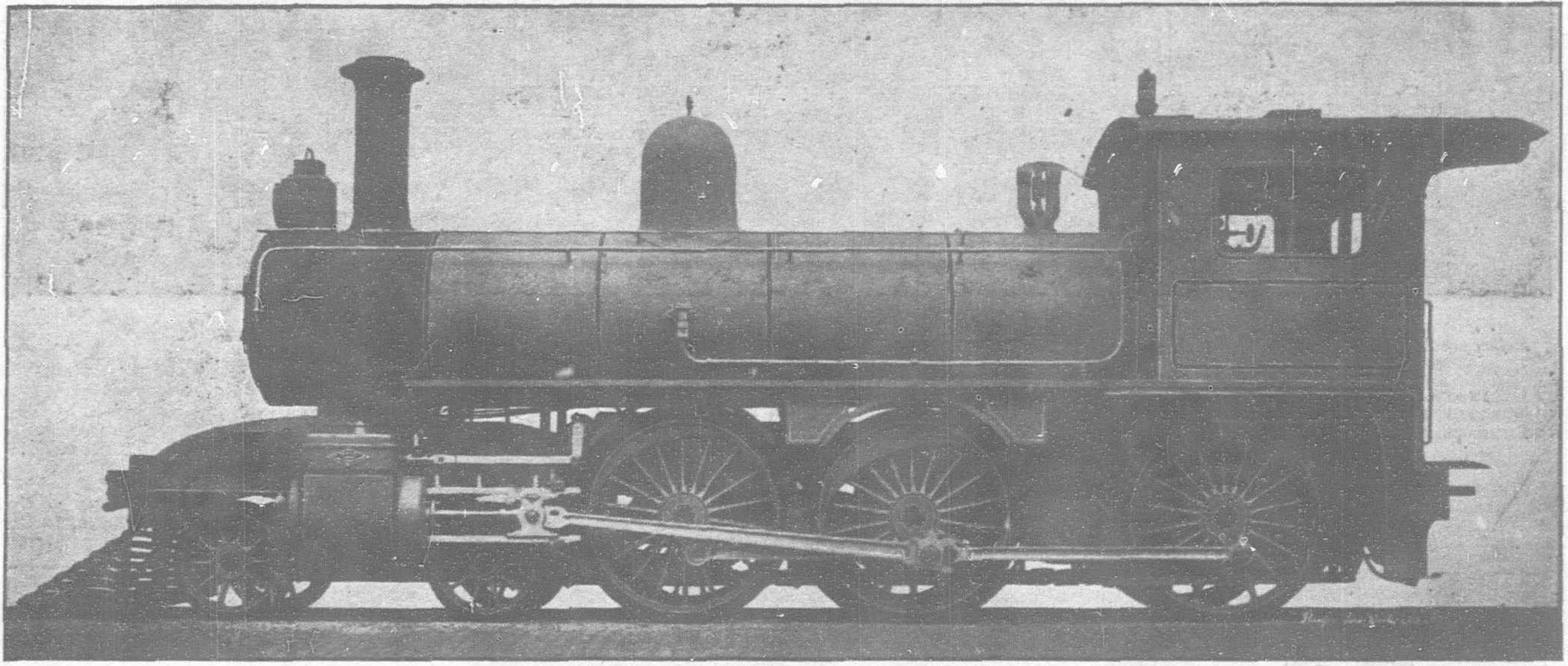
*Reference No. 4355.*

GAUGE OF RAILWAY, 4-ft. 8½-in.
TYPE, 2-6-0.—**ENGINE**

| | | |
|---|---|---|
| CYLINDERS | Diameter | 17-in. |
| | Stroke | 24-in. |
| WHEELS | Coupled, Diameter | 4-ft. 6 in. |
| | Front, Diameter | 3-ft. 0-in. |
| WHEELBASE | Rigid | 14-ft. 3-in. |
| | Total | 21-ft. 11-in. |
| | Engine & Tender | -ft. -in. |
| WORKING PRESSURE | | 180-lbs. per sq. in. |
| HEATING SURFACE | Tubes | 1,110 sq. ft |
| | Firebox | 103 sq. ft. |
| | Total | 1,213 sq. ft. |
| FIREGRATE AREA | | 20.2 sq. ft. |
| BOILER FEED | | 2 Injectors. |
| TRACTIVE FORCE at 75% of Boiler Pressure | | 17,340-lbs. |
| WEIGHT | In Working Order | 46 tons 6 cwts. |
| | On Coupled Wheels | 39 tons 2 cwts. |

**TENDER**

| | | |
|---|---|---|
| TANK Capacity | | gallons. |
| FUEL Space | | cub. ft. |
| WEIGHT, Full | | tons cwts. |



*Reference No. L 199.*

GAUGE OF RAILWAY, 4-ft. 8½-in.
TYPE, 4-6-0.—**ENGINE**

| | | |
|---|---|---|
| CYLINDERS | Diameter | 18-in. |
| | Stroke | 24-in. |
| WHEELS | Coupled, Diameter | 5-ft. 6-in. |
| | Front | 3-ft. 0-in. |
| WHEELBASE | Rigid | 14-ft. 2-in. |
| | Total | 25-ft. 11-in. |
| | Engine & Tender | -ft. -in. |
| WORKING PRESSURE | | 180-lbs. per sq. in. |
| HEATING SURFACE | Tubes | 1,298 sq. ft. |
| | Firebox | 109 sq. ft. |
| | Total | 1.407 sq. ft. |
| FIREGRATE AREA | | 22.2 sq. ft |
| BOILER FEED | | 2 Injectors. |
| TRACTIVE FORCE at 75% of Boiler Pressure | | 15,905-lbs. |
| WEIGHT | In Working Order | 52 tons 11 cwts. |
| | On Coupled Wheels | 37 tons 19 cwts. |

**TENDER**

| | | |
|---|---|---|
| TANK Capacity | | gallons. |
| FUEL Space | | cub. ft. |
| WEIGHT, Full | | tons cwts. |

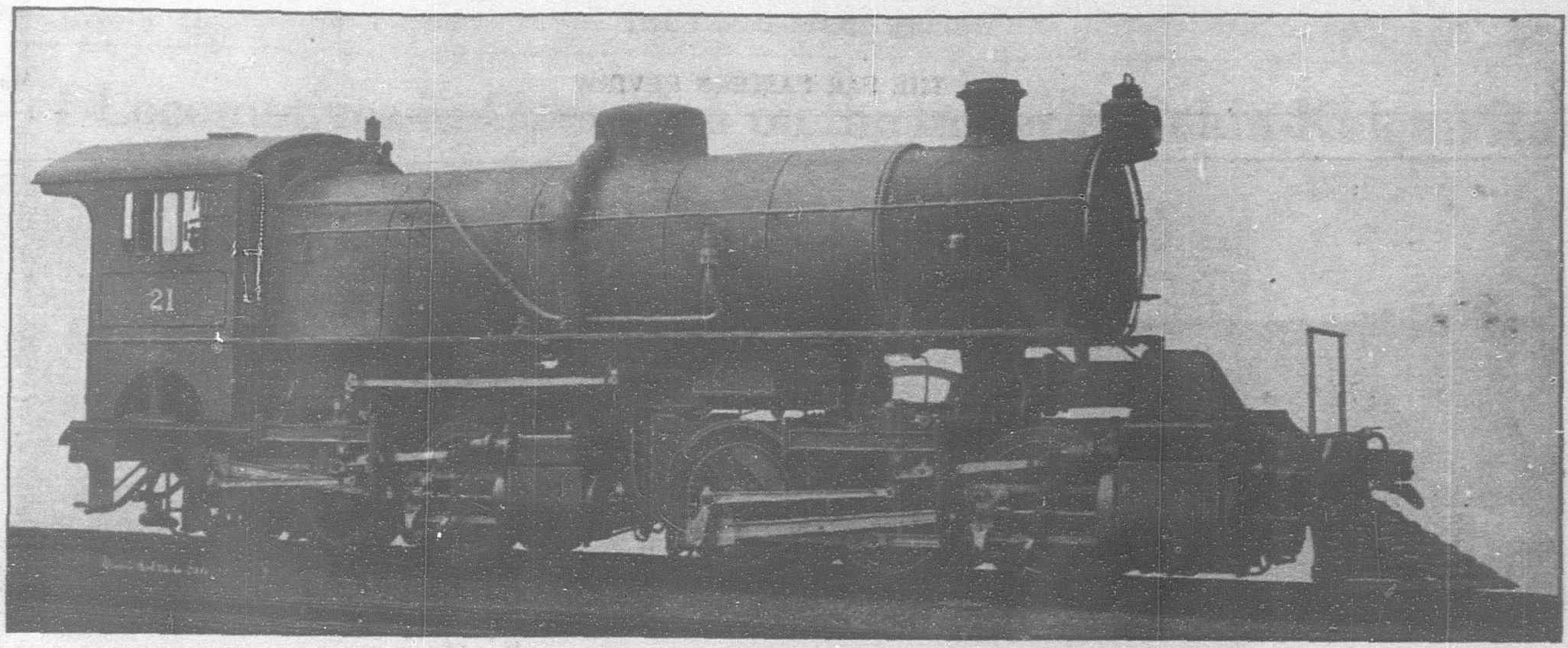
the cylinders being 19″ diameter, are presentyl under construction.

The *Shanghai-Nanking Railway* locomotives built by this Company are illustrated by photos Nos. L.101, L.102, and L.232, and form a handsome set of Goods, Mixed Traffic, Tanks and Passenger Engines respectively.

In the *Philippines* the first consignments of Locomotives from Messrs. Neilson, Reid & Co. and Messrs. Dubs & Co. were delivered to the Manila and Dagupan Railway (now the Manila Railroad Company) in 1890, and concerning these Engines it is worthy to note that after eighteen years' experience of them only a few (modern) improvements were required in twenty new Engines of the same type recently delivered by the North British Locomotive Company.

Engines of the "Atlantic" type have also been supplied to this Road for Express Passenger service, and this type, which is quite an unusual one on the 3′ 6″ gauge, is illustrated by photo, No. L.179. Five Heavy Tank Engines for Mixed Traffic work, in which the boiler and most of the principal working parts are duplicate with the corresponding parts of the Atlantics, are presently being delivered by the North British Locomotive Company.

Did we propose to dwell further on the work of this firm, reference might be made to the fact of their having delivered locomotives in the Straits Settlements, Siam, and elsewhere in the East. In closing, however, it may be sufficient to say that one of the objects which the North British Locomotive Company has constantly held before them has been to satisfy at all times their various clients who from time to time submit to their enquiries regarding special work, believing, as they do, that their extensive and varied experience can be utilized to the full in this way. The interests of the Company and of their Clients, so far as regards the East, are carefully safeguarded and watched by their Agents, Messrs. Jardine, Matheson & Co. Ltd., Shanghai, and Messrs. Okura & Company, Tokio



*Reference No. L 274*

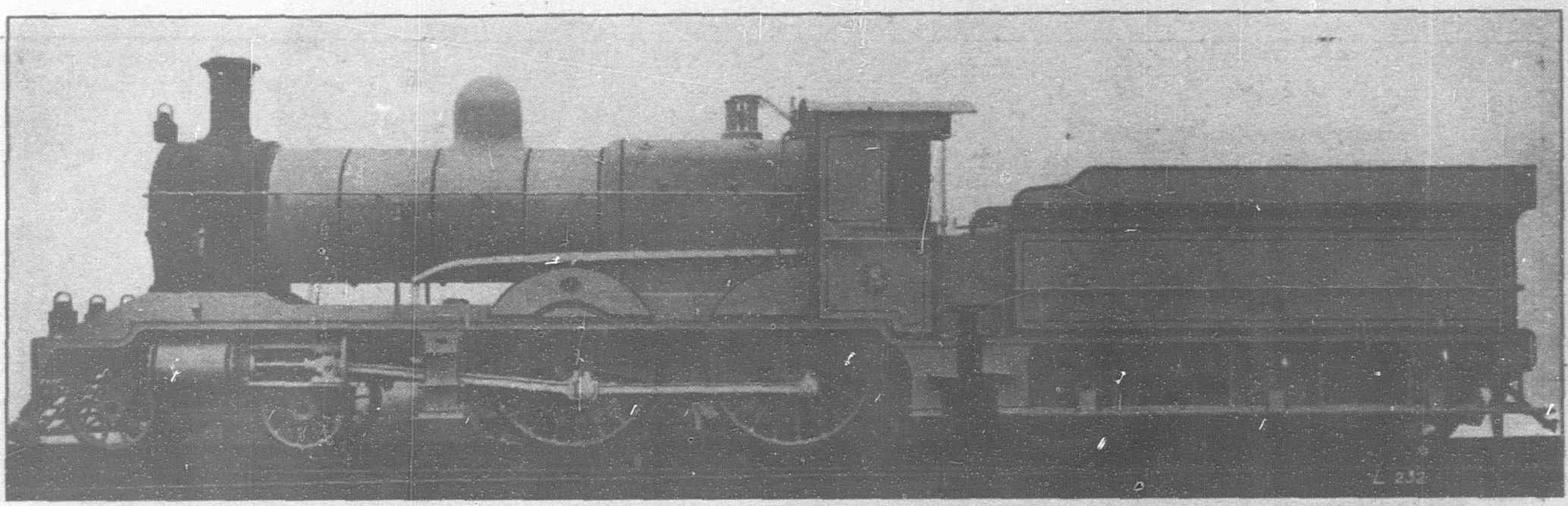
GAUGE OF RAILWAY, 4-ft. 8½-in.
"MALLET" ARTICULATED COMPOUND LOCOMOTIVE
TYPE, 0-6-6-0.—**ENGINE**

| | | |
|---|---|---|
| CYLINDERS | DIAMETER H. P., 18 in L. P. | 28½-in. |
| | STROKE | 28-in. |
| WHEELS, DIAMETER | | 4-ft. 3-in. |
| WHEELBASE | RIGID | 9-ft. 8-in. |
| | TOTAL | 29-ft. 4-in. |
| | ENGINE & TENDER | -ft. -in. |
| WORKING PRESSURE | | 200-lbs. per sq. in. |

| | | |
|---|---|---|
| HEATING SURFACE | TUBES | 2,425 sq. ft. |
| | FIREBOX | 166 sq. ft. |
| | TOTAL | 2.591 sq. ft. |
| FIREGRATE AREA | | 45 sq. ft. |
| BOILER FEED | | 2 INJECTORS. |
| TRACTIVE FORCE AT 50% OF BOILER PRESSURE | | 35,576-lbs. |
| WEIGHT | IN WORKING ORDER | 96 tons 10 cwts. |
| | ON COUPLED WHEELS | 96 tons 10 cwts. |

**TENDER**

TANK CAPACITY .......... gallons FUEL SPACE .......... cub. ft. WEIGHT, FULL .......... tons cwts



*Reference No. L 232*

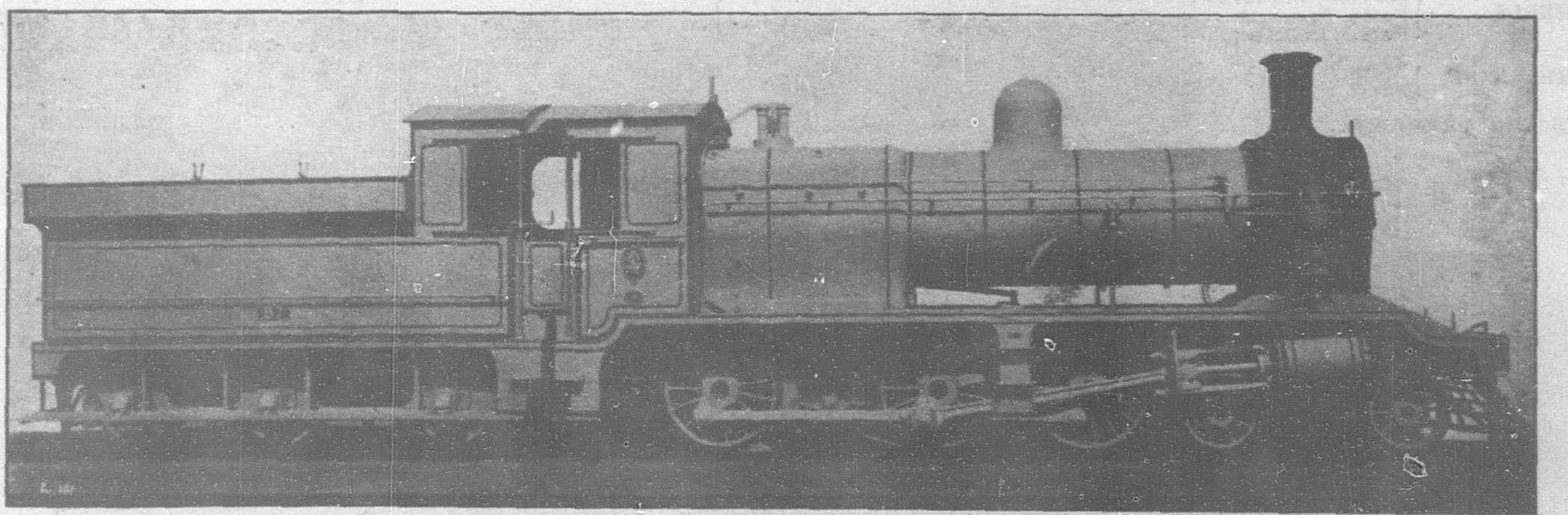
GAUGE OF RAILWAY, 4-ft 8½-in.
TYPE, 4-4-0.—**ENGINE**

| | | |
|---|---|---|
| CYLINDERS | DIAMETER | 18-in. |
| | STROKE | 26-in. |
| WHEELS | COUPLED, DIAMETER | 6-ft. 7-in. |
| | BOGIE, DIAMETER | 3-ft. 6-in. |
| WHEELBASE | RIGID | 8-ft. 3-in. |
| | TOTAL | 25-ft. 2-in. |
| | ENGINE & TENDER | 48-ft. 9-in. |
| WORKING PRESSURE | | 180-lbs. per sq. in. |

| | | |
|---|---|---|
| HEATING SURFACE | TUBES | 1,467.39 sq. ft. |
| | FIREBOX | 162.61 sq. ft. |
| | TOTAL | 1,630 sq. ft. |
| FIREGRATE AREA | | 28 sq. ft. |
| TRACTIVE FORCE AT 75% OF BOILER PRESSURE | | 14,395 lbs. |
| WEIGHT | IN WORKING ORDER | 57 tons 8 cwts. |
| | ON COUPLED WHEELS | 37 tons 10 cwts. |

**TENDER**

TANK CAPACITY .......... 3,500 gallons. FUEL SPACE .......... 315 cub. ft. WEIGHT, FULL .......... 42 tons 13 cwts.



*Reference No. L 101*

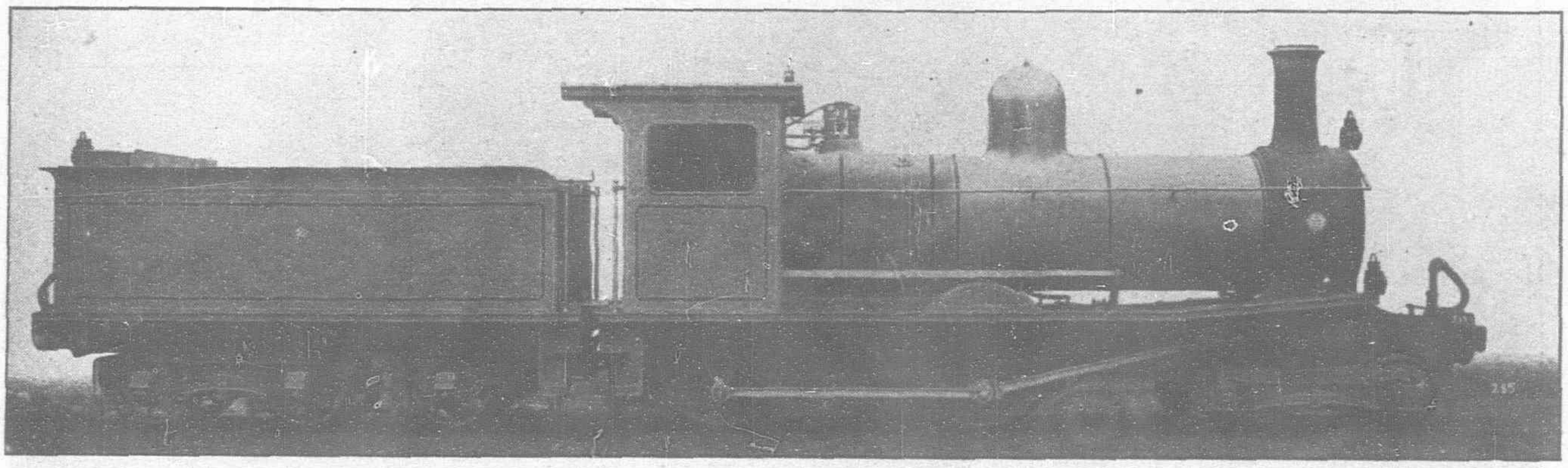
GAUGE OF RAILWAY, 4-ft. 8½-in.
TYPE, 4-6-0.—**ENGINE**

| | | |
|---|---|---|
| CYLINDERS | DIAMETER | 18-in. |
| | STROKE | 26-in. |
| WHEELS | COUPLED, DIAMETER | 4-ft. 9-in. |
| | BOGIE, DIAMETER | 3-ft. 0-in. |
| WHEELBASE | RIGID | 13-ft. 9-in. |
| | TOTAL | 24-ft. 11-in. |
| | ENGINE & TENDER | 48-ft. 6-in. |
| WORKING PRESSURE | | 180-lbs. per sq. in. |

| | | |
|---|---|---|
| HEATING SURFACE | TUBES | 1,467.39 sq. ft. |
| | FIREBOX | 162.61 sq. ft. |
| | TOTAL | 1,630 sq. ft. |
| FIREGRATE AREA | | 28 sq. ft. |
| BOILER FEED | | 2 INJECTORS. |
| TRACTIVE FORCE AT 75% OF BOILER PRESSURE | | 19,951-lbs. |
| WEIGHT | IN WORKING ORDER | 60 tons 6 cwts. |
| | ON COUPLED WHEELS | 46 tons 7 cwts. |

**TENDER**

3,500 gallons. FUEL SPACE .......... 315 cub. ft. WEIGHT, FULL .......... 42 tons 3 cwts.



*Reference No. L 285.*

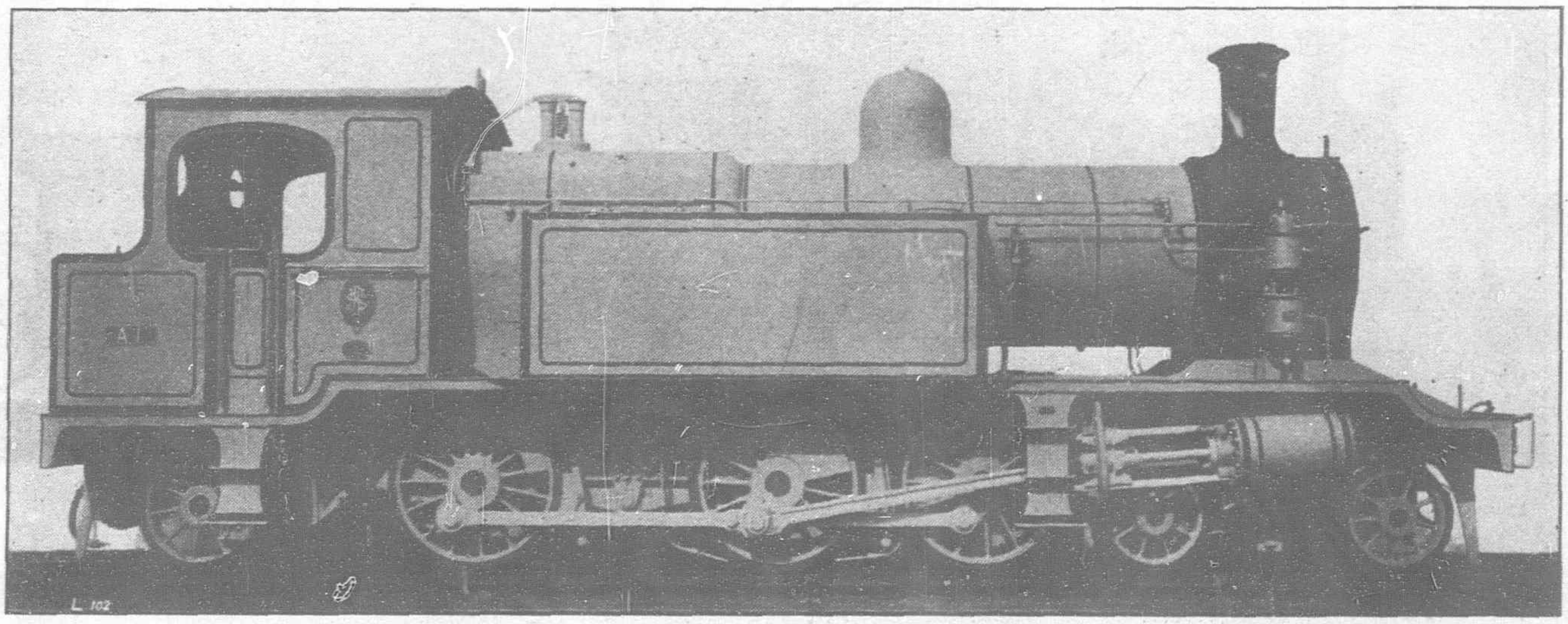
GAUGE OF RAILWAY 3-ft. 6-in

TYPE, 4-4-0.—**ENGINE**

| | | |
|---|---|---|
| CYLINDERS | Diameter | 16-in. |
| | Stroke | 22-in. |
| WHEELS | Coupled, Diameter | 4-ft. 6-in. |
| | Bogie, Diameter | 2-ft. 4-in. |
| WHEELBASE | Rigid | 8-ft. 4-in. |
| | Total | 21-ft. 7-in. |
| | Engine & Tender | 40-ft. 0-in. |
| WORKING PRESSURE | | 160 lbs. per sq. in. |
| HEATING SURFACE | Tubes | 899 sq ft. |
| | Firebox | 98 sq. ft. |
| | Total | 997 sq. ft. |
| FIREGRATE Area | | 17 sq. ft |
| BOILER FEED, Two Injectors | | 1 No. 8 and 1 No. 7. |
| TRACTIVE FORCE at 75% of Boiler Pressure | | 12515-lbs. |
| WEIGHT | In Working Order | 33 tons 10 cwts. |
| | On Coupled Wheels | 22 tons 4 cwts. |

**TENDER**

| | |
|---|---|
| TANK Capacity | 2300 gallons. |
| FUEL Space | 110 cub. ft. |
| WEIGHT, Full | 25 tons 10½ cwts. |

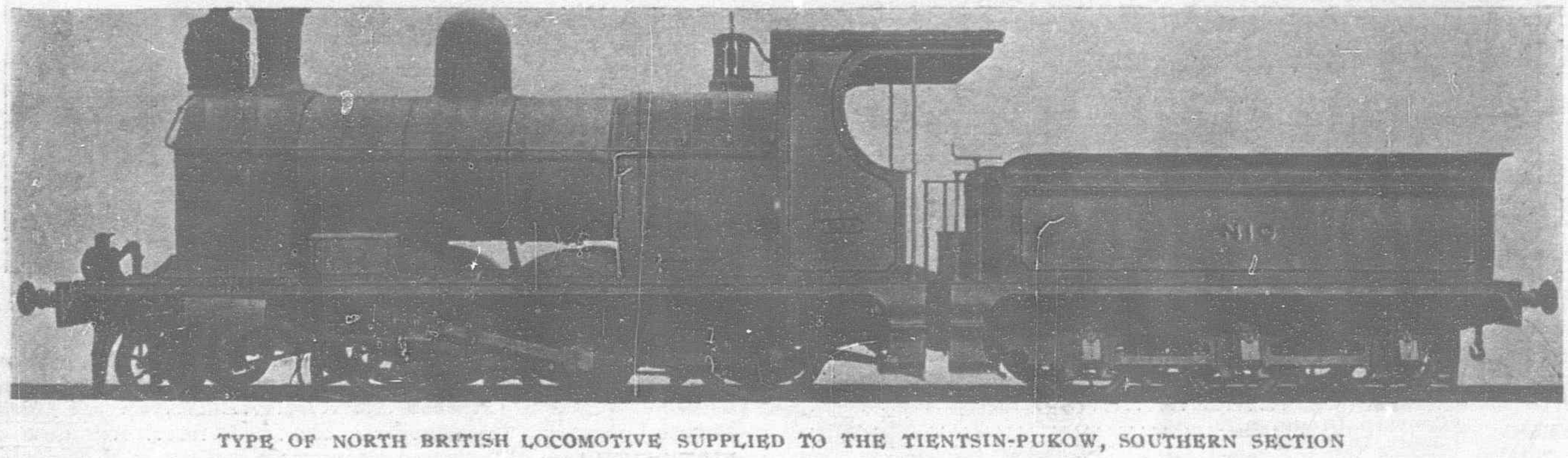


*Reference No. L 102.*

GAUGE OF RAILWAY, 4-ft. 8½-in.

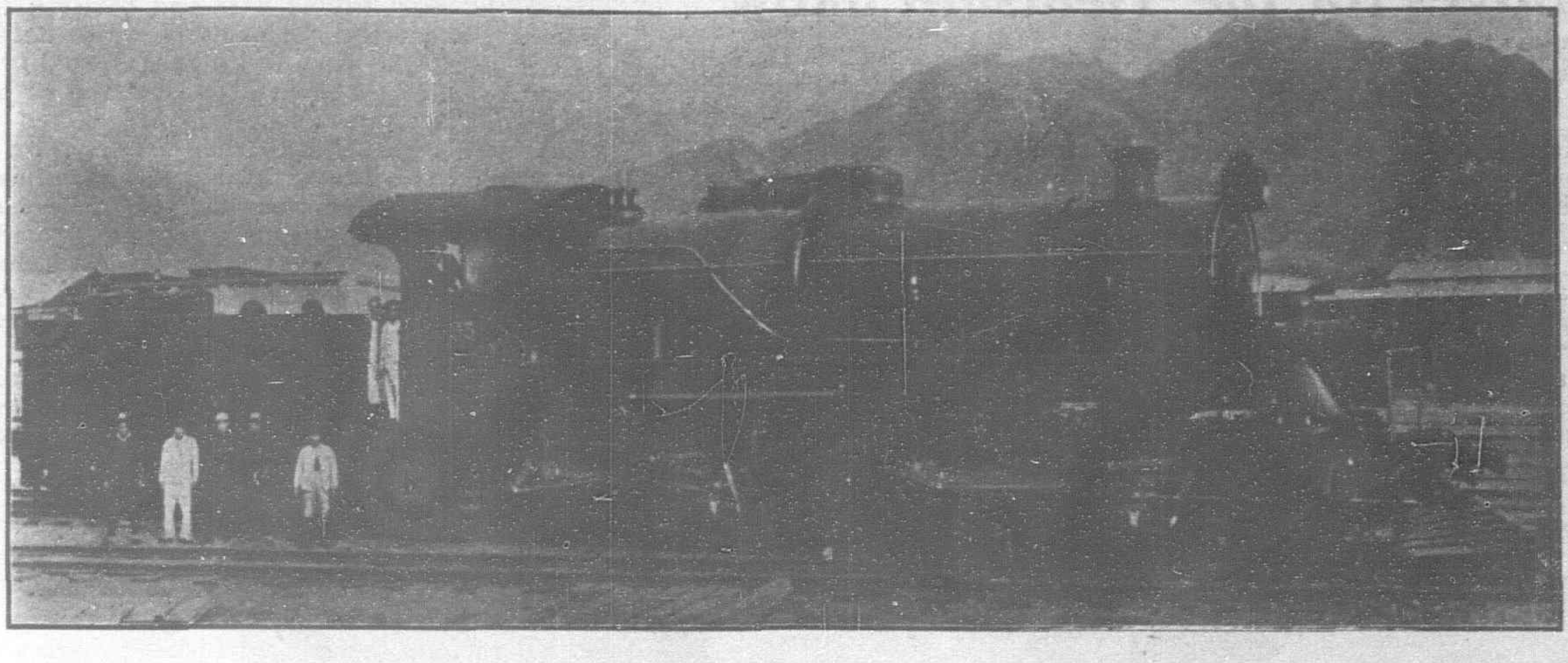
TYPE 4-6-2.—**TANK ENGINE**

| | | |
|---|---|---|
| CYLINDERS | Diameter | 18-in. |
| | Stroke | 26-in. |
| WHEELS | Coupled, Diameter | 4-ft. 9-in. |
| | Bogie, Diameter | 3-ft. 0-in. |
| | Radial Diameter | 3-ft. 6-in. |
| WHEELBASE | Rigid | 13-ft. 9-in. |
| | Total | 32-ft. 5-in. |
| WORKING PRESSURE | | 180-lbs. per sq. in. |
| HEATING SURFACE | Tubes | 1,467.39 sq. ft. |
| | Firebox | 162.61 sq. ft. |
| | Total | 1,630 sq. ft. |
| FIREGRATE Area | | 28 sq. ft. |
| BOILER FEED | | 2 Injectors. |
| TRACTIVE FORCE at 75% of Boiler Pressure | | 19,951-lbs. |
| WEIGHT | In Working Order | 74 tons 7 cwts. |
| | On Coupled Wheels | 47 tons 16 cwts. |
| TANK Capacity | | 1,120 gallons. |
| FUEL Space | | 77 cub. ft. |

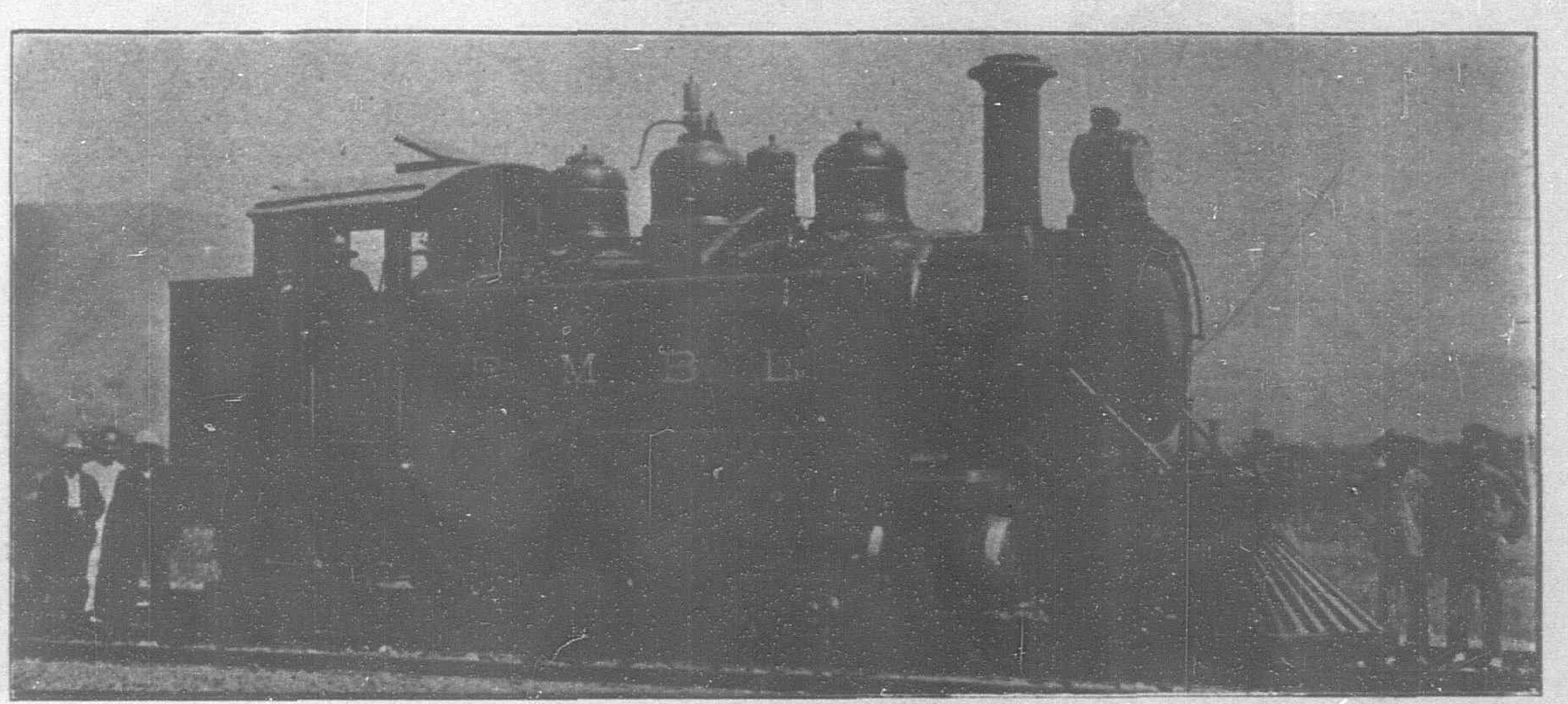


TYPE OF NORTH BRITISH LOCOMOTIVE SUPPLIED TO THE TIENTSIN-PUKOW, SOUTHERN SECTION

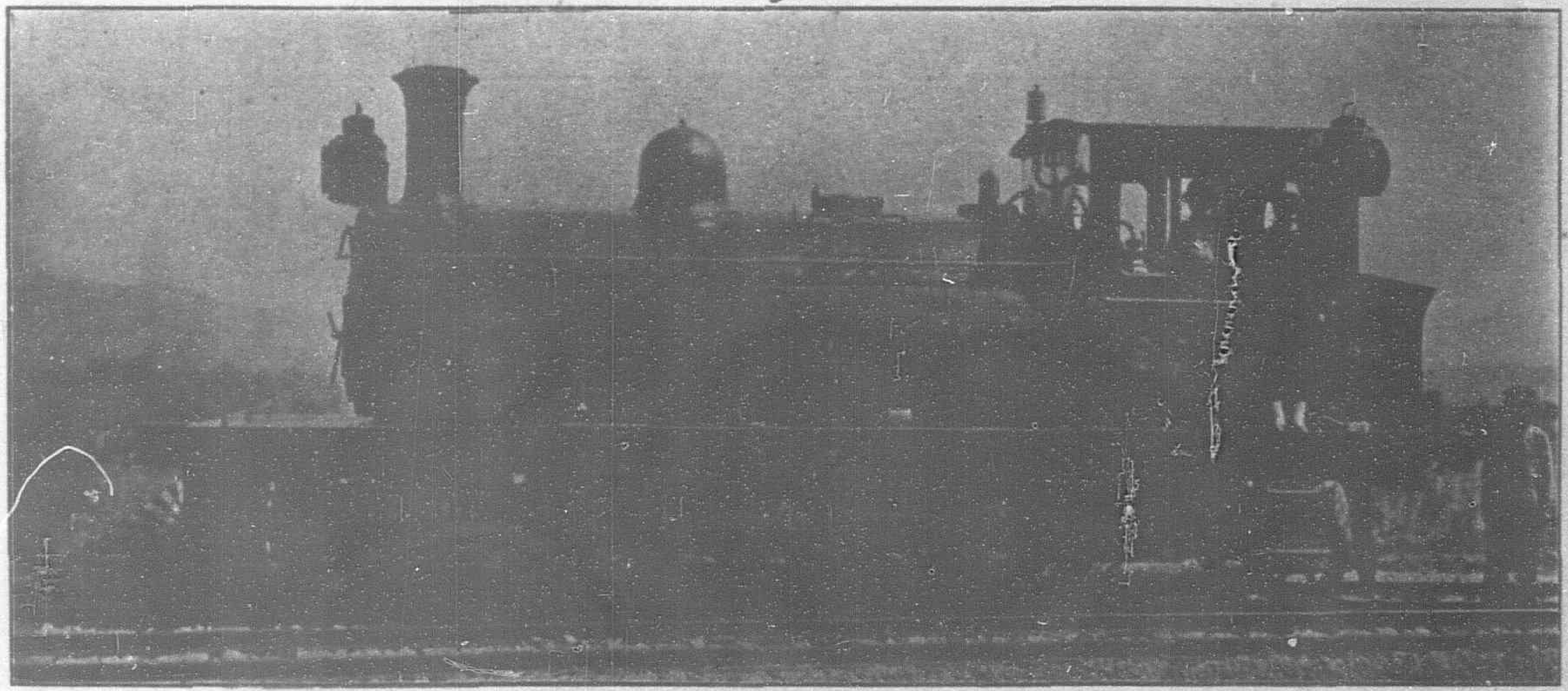
# Types of Locomotives in Operation on the Imperial Pekin-Kalgan Railway



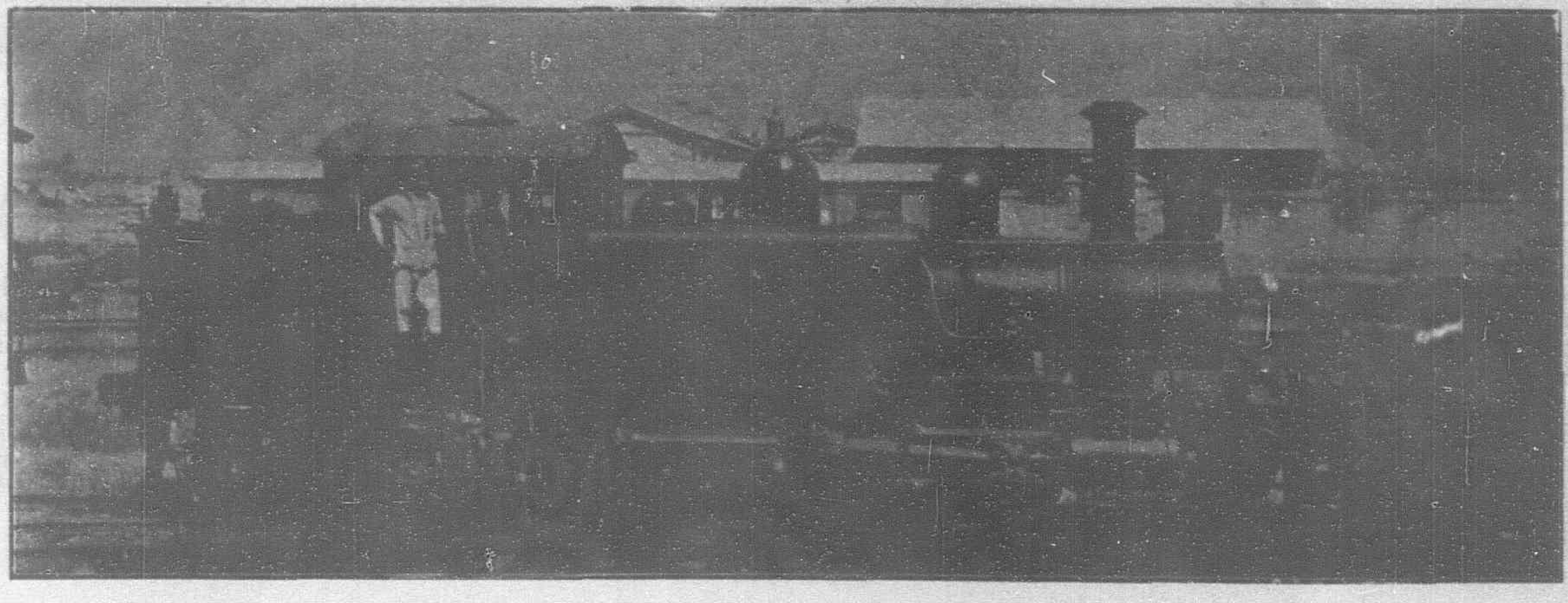
MALLET TYPE FROM THE NORTH BRITISH LOCOMOTIVE CO. LTD.



SADDLE TANK LOCOMOTIVE FROM THE BALDWIN LOCOMOTIVE WORKS



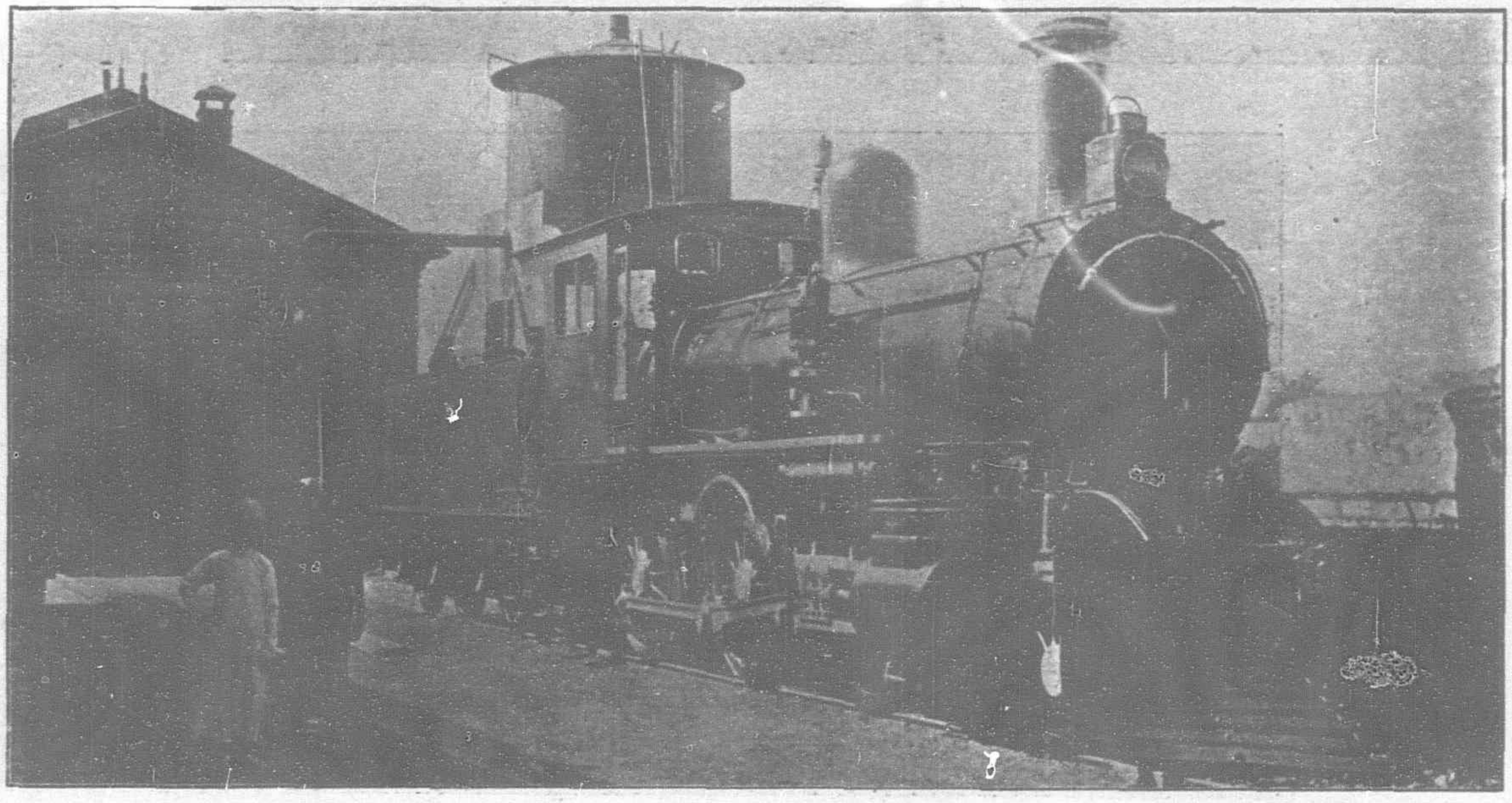
BUILT BY THE NORTH BRITISH LOCOMOTIVE CO. LTD.



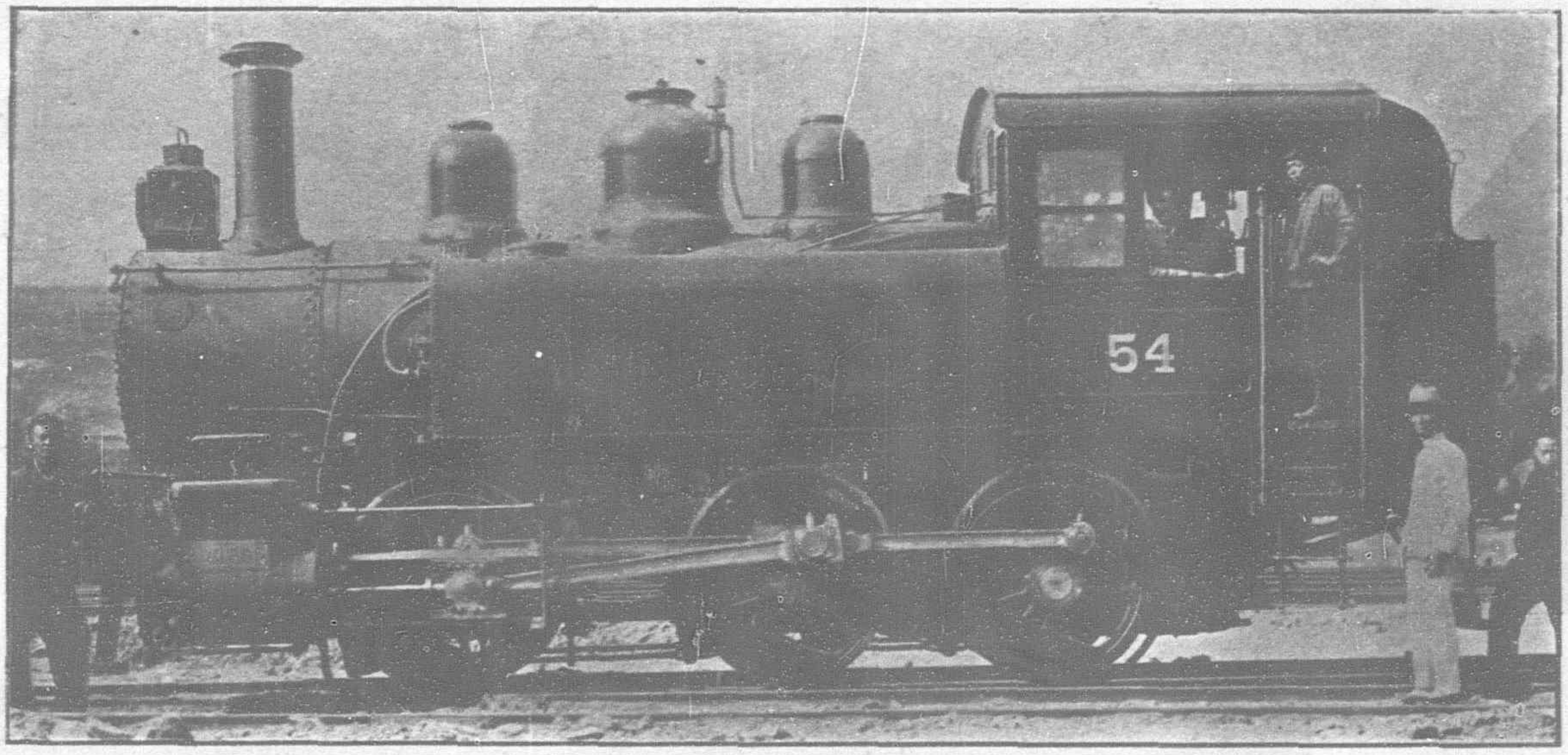
BUILT AT THE TONGSHAN WORKS OF THE I. R. N. C.

# Baldwin Locomotives for the Tientsin-Pukow Railway, China

The Baldwin Locomotive Works has recently shipped to China two Mogul locomotives intended for general road service on the Tientsin-Pukow Railway. The track gauge is standard, and when compared with many six-coupled locomotives used on American roads, this design appears of moderate capacity, as the tractive force developed is 22100 pounds. The engines are, however, admirably adapted to the service required. It may be noted in this connection that while comparatively few Mogul locomotives are being built for the principal American lines, there is a steady demand for this class of power from foreign roads.



BUILT AT THE TONGSHAN WORKS OF THE I. R. N. C.



SADDLE TANK LOCOMOTIVE FROM THE ROGERS LOCOMOTIVE WORKS OF PATERSON, N. J.

The engines under notice have straight topped boilers with inside fire-boxes of copper. The crown and sides are in separate places, and the tube sheet is increased in thickness from ½" to ¾" over the area where the tubes are inserted. The staybolts are of copper. The fire-door opening is formed with a ring, which is riveted between the inside and outside sheets.

The barrel is composed of two courses, and except for the construction of the dome, presents no unusual features. The dome body is of pressed steel, and is bolted to the dome bass. As the body can be easily removed, the throttle valve and its operating mechanism are readily accessible. The dry pipe is of copper.

The boiler is equipped for burning bituminous coal. The grate is of the rooking type with drop plate, and the fire-box contain a brick arch supported on studs. The smoke-box is extended, and is fitted with netting, an adjustable diaphragm plate, and a high double nozzle. The stack is straight, 18 inches in diameter.

In many respects the most interesting features of these locomotives are the frames and running gear, which are designed, to a large extent, in accordance with foreign practice. The frames are of mild steel plate, 1-¼" thick, and rolled in one piece for each side. With this construction, the fire-box can be placed above the rear driving axle and between the frames. It can thus be made of ample depth, and of nearly the same width as the usual type of narrow fire-box when placed on top of bar frames. The frame pedestals are bolted in place, and, together with their binders, are of cast steel. The driving springs are underhung, and the loads on the main and rear drivers are equalized through beams fulorumed under the frames. These beams are of cast steel, with an I-section. The front drivers are equalized with the engine truck as in American practice.

The driving boxes are of steeled cast iron, and the driving wheel centers are of cast steel. The truck wheels are steel-tired, with cast steel centers.

Each cylinder is a separate casting, and the saddle, which supports the boiler and occupies the space between the frames, is made in one piece. The cylinders and saddle are lipped on top of the frames and securely held together by horizontal holes. The steel distribution is controlled by Richardson balanced slide valves, driven by Walschaerts motion. The links are trunioned on casting bolted to the guide bearers. The latter are of cast steel, each being formed in one piece with a broad vertical foot which fits up against the outside of the frame and is securely bolted into place. Between the guide bearers, the frames are braced transversely by a deep cross tie. Similar ties are placed under the front of the fire-box, and ahead of the main driving axle. The frames are bolted, at the rear, to a cast steel foot plate.

The engineman is located on the right hand side of the cab, and the general arrangement of the fittings is similar to American practice. Two sand boxes are provided, and they are placed under the running boards, immediately in front of the leading drivers. The equipment includes English Westinghouse automatic quick acting air brakes. Whitworth threads are used on all bolts, nuts and staybolts.

The tender is carried on three pairs of wheels and the loads on the second and third pairs are equalized. The frames consist of steel plates; they are placed outside the wheels, and are strongly braced transversely between the axles. Steel plates are also used for the bumpers. The tank is wedge shaped, and carries 4800 gallons of water. The fuel space has a sloping floor throughout its entire length, and accommodates 7-½ tons of coal. The tender wheels, like those of the engine truck, are steel tired with cast steel centers, and were manufactured by the Standard Steel Works Co.

In general outline these engines present a pleasing appearance. They are simple in construction, and as the valve motion is entirely outside the wheels, the plate frames in no way prevent access to the working parts. The engines combine, to a marked degree the flexibility of the American locomotive with various structural features which are characteristic of European practice.

### BALDWIN LOCOMOTIVE WORKS

Class 8-32 D, 776.—Road No. 15 .

Built for Tientsin-Pukow Ry., Southern Section.

| | |
|---|---|
| Gauge | 4'-8½" |
| Cylinder | 19"×24" |
| Valve, | Balanced. |

BOILER

| | |
|---|---|
| Type | Straight. |
| Material | Steel. |
| Diameter | 61¾" |
| Thickness of sheets | ⅝" |
| Working Pressure | 180 lbs. |
| Fuel | Soft coal. |
| Staying | Radical. |

FIRE BOX

| | |
|---|---|
| Material | Copper. |
| Length | 87" |
| Width | 40" |
| Depth, front | 75½" |
| Depth, back | 65½" |
| Thickness of sheets | sides ½" |
| Thickness of sheets | back ½" |
| Thickness of sheets | crown ⅝" |
| Thickness of sheets | tube ¾" & ½". |

WATER SPACE

| | |
|---|---|
| Front | 3½" |
| Sides | 2½" |
| Back | 3" |

TUBES

| | |
|---|---|
| Material | Iron. |
| Wire gauge | No. 12. |
| Number | 238. |
| Diameter | 2". |
| Length | 12'-0¼" |

HEATING SURFACE

| | |
|---|---|
| Fire Box | 140 sq. ft. |
| Combustion Chamber Tubes | 1489 sq. ft |
| Firebrick Tubes | sq. ft. |
| Total | 1629 sq. ft |
| Grate Area | 24.2 sq. ft |

DRIVING WHEELS

| | |
|---|---|
| Diameter, outside | 60" |
| Diameter center | 54" |
| Journals, main | 8"×10" |
| Journals, others | 8"×10" |

ENGINE TRUCK WHEELS

| | |
|---|---|
| Diameter, Front | 36" |
| Journals, | 6"×10" |
| Diameter, Back | |
| Journals | |

TRAILING WHEELS

| | |
|---|---|
| Diameter | |
| Journals | |

WHEEL BASE

| | |
|---|---|
| Driving | 15'-0" |
| Rigid | 15'-0" |
| Total Engine | 23'-3" |
| Total Engine & Tender | 46'-3" |

WEIGHT

| | |
|---|---|
| On Driv. Wheels | 101800 lbs. |
| On Truck, front | 23150 lbs. |
| On Truck, back | |
| On Trailing Wheels | |
| Total Engine | 124950 lbs. |
| Total Engine & Tender, about | 221000 lbs. |

TENDER

| | |
|---|---|
| Wheels, Number | 6 |
| Wheels, Diameter | 45" |
| Journals | 6¼"×10" I |
| Tank Capacity | 4000 Imp. gals |
| Fuel Capacity | 7½ tons. |

Service, Passenger & Freight.

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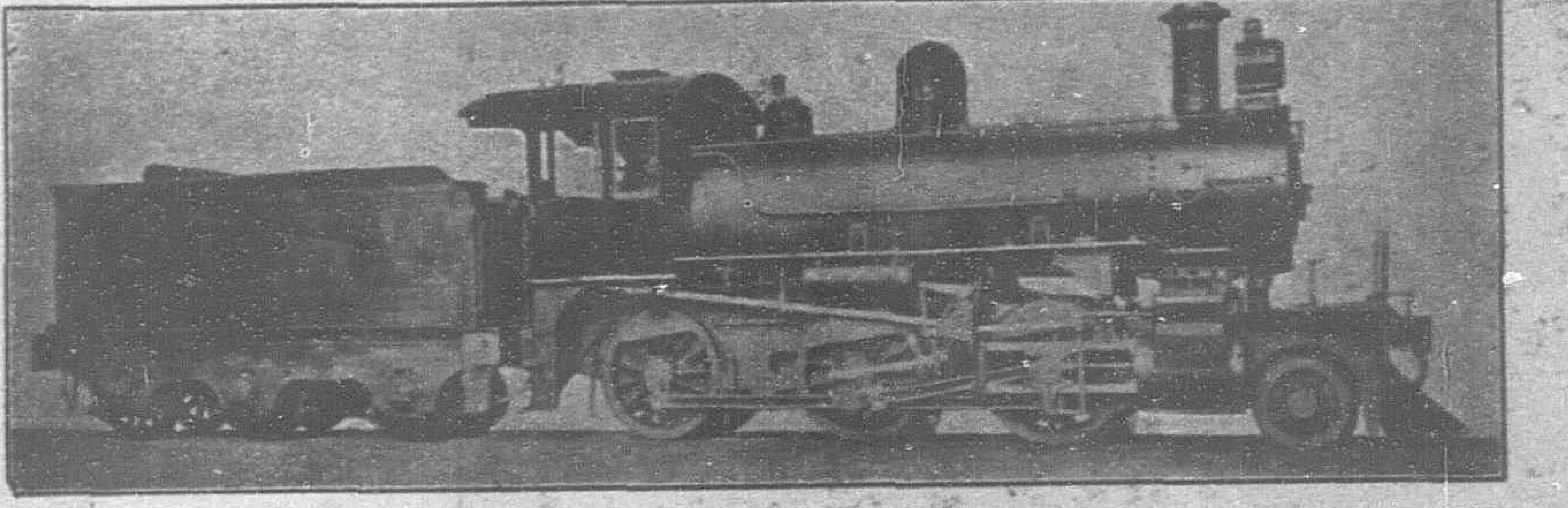
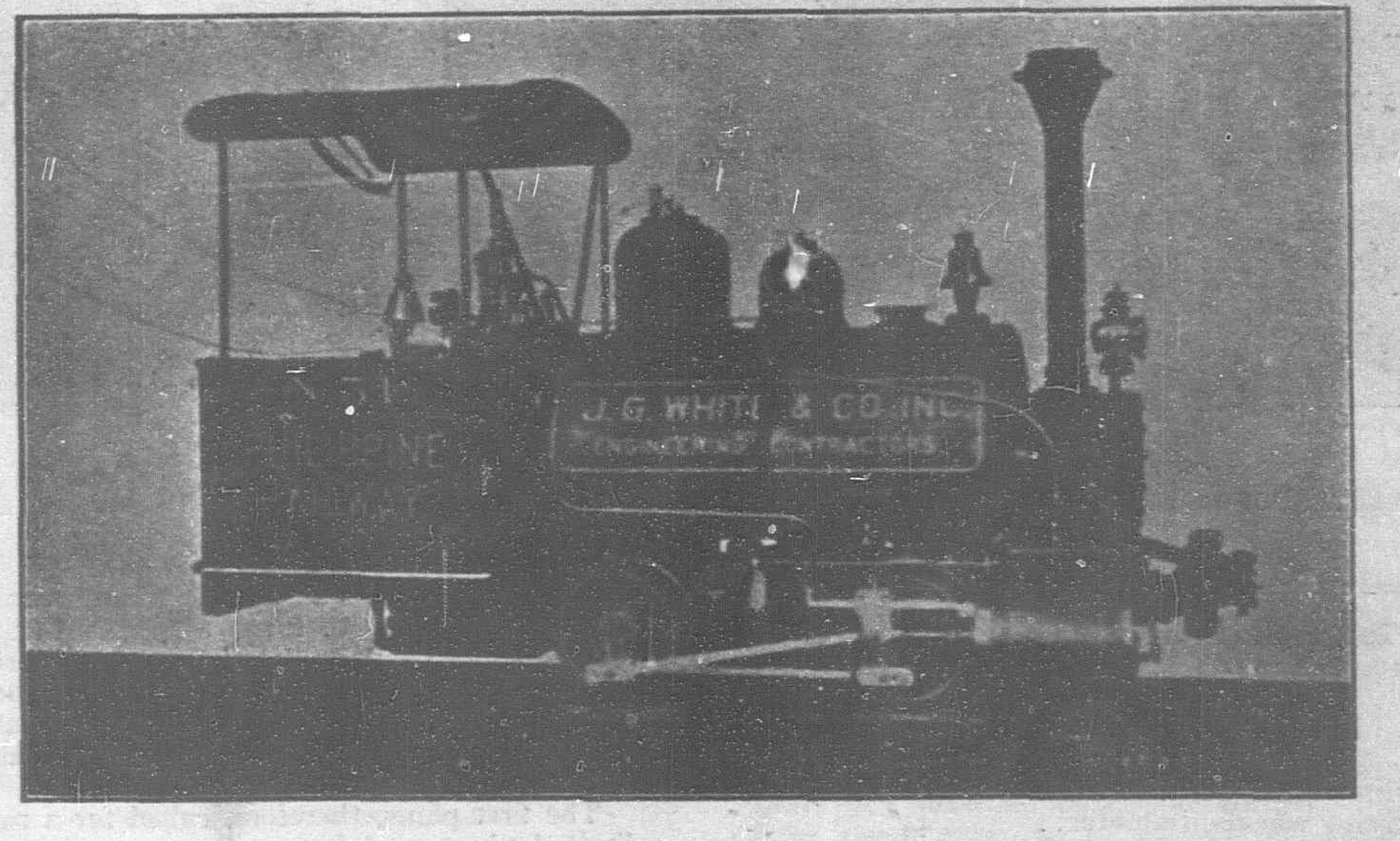
## LOCOMOTIVES FOR THE PHILIPPINE RAILWAY

The type of locomotive most suitable for service in any particular locality is determined chiefly by the conditions existing in that locality. In the early days of railroad operation, American builders developed locomotives specially adapted to meet prevailing conditions. Railways, as then constructed, had poorly surfaced tracks, numerous sharp curves and been built to American designs for service in heavy grades. This necessitated a design of locomotive having a flexible wheel base, with the weight distributed and equalized in such a manner that each wheel found a bearing when running over uneven tracks. Locomotives fulfilling these conditions were produced and the development of the American locomotive has since progressed along the lines indicated above. American designs have further been characterized by simplicity of construction, the absence of unnecessary finish and ease of maintenance and repairs. These features have proved of value in maintaining the power where adequate repair facilities were lacking.

The conditions described above, as formerly existing on American railways, are today frequently found in provincial and colonial countries, and in such localities American locomotives have been used with marked success. The Baldwin Locomotive Works, since completing their first locomotive in 1832, have exported approximately 18 per cent of their output. The majority of these engines have newly developed countries, and their performance has proved highly successful.


BALDWIN LOCOMOTIVE BUILT FOR THE PHILIPPINE RAILWAY COMPANY



THE TYPE OF SMALL LOCOMOTIVE BUILT BY THE BALDWIN LOCOMOTIVE WORKS FOR THE PHILIPPINE RAILWAY COMPANY

Three designs of locomotives were shipped by the Baldwin Locomotive Works, during recent years, to the Philippine Railway. Engines are of the Mogul type,* with three pairs of coupled driving wheels and a two-wheeled leading truck. These locomotives are built for a track gauge of 3 feet 6 inches, and are suitable for general road service. The line has grades of 1-½ per cent, and the sharpest curves are of 15 to 20 degrees radius. The engines are fitted for burning Philippine lignite, the grates are of the rocking pattern, and the smokestacks and front ends are specially designed to prevent spark throwing. The boilers and fire-boxes are built of steel plate throughout, and the frames are of forged iron. Both locomotives are equipped with Vanderbilt tenders, having cylindrical water tanks.

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*See illustrations, page 558.

# MUKDEN ELECTRIC LIGHT WORKS

Mukden, April, 15th.

In 1908, the Manchurian Government was largely controlled by a coterie of foreign educated, progressive and competent officials, of which H. E. Tang Shaoiji was the leader and also Governor of the province. Many improvements were inaugurated during their brief tenure of office, not the least of which was the appropriation of funds in July for the installation of an electric light system for the capital. The funds were placed under the control of the Director of the Provincial Mint, and it was proposed to make the electric plant a branch of the Mint, and to furnish light principally for the many Government Yamens, and streets. Commercial lighting seemed rather hopeless at first, owing to the cost, and the fact that all shops close at sun down and the inhabitants as a rule retire very early.

Mr. KEY TSU YI

DIRECTOR OF MUKDEN ELECTRIC LIGHT WORKS AND CO-DIRECTOR OF THE MANCHURIAN MINT

TAOTAI YUNG HOU

DIRECTOR OF THE MANCHURIAN MINT, AND CO-DIRECTOR OF THE MUKDEN ELECTRIC LIGHT WORKS

The first plans, therefore, called for a rather limited plant, and four contracts were entered into for the purchase of equipment.

1st. With a foreign merchant for a British Engine and a German dynamo, and some construction tools.

2nd. With Siemens Schuckert for the fittings and accessories for wiring 4,000 incandescent lamps.

3rd. With the Furukawa Mining Co. for 35 miles of insulated and bare copper line wire, and 25 miles of insulated wire and lamps cord for interior wiring.

4th. With the Kirin Timber Co. for 900 yellow pine electric light poles.

In December 1908, the Managing Director of the Mint was removed, and a foreigner employed to superintend the electric installation. The Japanese had been operating an electric lighting plant within the limits of the railway zone near the station, and were anxious to extend its operation to cover the lighting of the Chinese city. The Chinese authorities, with the object of forstalling any definite demand from the Japanese for the concession, hurriedly erected about 100 poles during the winter without regard to alignment, spacing or proper setting. The value of this step was, however, diminished when the Chinese Foreign Office granted the Japanese the favor of stringing temporary wires on these poles, for the illumination of their offices during the short visit and entertainment of Prince Fushimi. The Chinese contend that, in return for this favor, the Japanese have officially demanded, through their Consul General, that before the wires can be removed, they must be purchased at a price nearly double their actual value. In September the work had progressed to the extent that the Chinese had then strung their own wires on the poles and were ready to furnish current. They then approached the Japanese with the proposition to change the wires, and, without interrupting the service, furnish them current from the Chinese plant. But this request failed to meet with a favourable response at that time, and it was not till the 15th of December last that an understanding was finally entered into, permitting the Chinese to replace the wires originally strung on their poles, as a temporary favor, and negotiations are still proceeding to determine the price which China must pay for the lines and materials so installed.

The Engineer arrived in Mukden the first of July, and began the organization of several gangs of workmen and drew plans for power station and pole line arrangements. All of the cross-arms, bolts, braces, etc., have been made in the Mint shops. House wiring was started in the Government Yamens about August 1st, and the erecting of power-station machinery August 15th. The plant was given a twelve hours test run on September 30th, and put in operation with about one thousand lights, October 3rd. The Series Tungsten Street Light-

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The leading dimensions of these two classes are as follows:

| | Engine 25 | Engine 494 |
|---|---|---|
| Cylinders, diam. x stroke.. | 5"x18" | 17"x24" |
| Driving wheels, diameter.. | 44" | 50" |
| Steam pressure, lbs. per sq. in. | 180 | 180 |
| Total heating surface, sq. ft | 733 | 1323 |
| Grate area, sq. ft. | 13.8 | 18.9 |
| Wheel-base, driving | 10'9" | 12'0" |
| Wheel-base, total engine.. | 18'1" | 19'4" |
| Wheel-base, total engine & tender | 46'1" | 49'5" |
| Weight on driving wheels, lbs. | 63770 | 89430 |
| Weight total engine, lbs.. | 76370 | 101980 |
| Weight total engine, and | 130000 | 182000 |
| tender, lbs. | 2,500 | 4000 |
| Tank capacity, water, gals. | 4 | 8 |
| Fuei capacity, coal, tons.. | | |

The small locomotive, Number N-51, is designed for contractors' service. It has a weight of 97000 pounds. The cylinders total 5x10 inches, the driving wheels 20 inches in diameter, and the steam pressure 150 pounds. The track gauge is 2 feet. This is among the smallest locomotives built at these Works during recent years.

ing System was put in operation in November, shortly after the arrival of the final shipment of equipment. The lighting service has been supplied for seven months to date without accident or interruption, except for one period of twenty minutes, due to a misunderstanding of orders.

Public Attitude.—Since the date of starting the Plant, orders for the installation of lights have been received more rapidly than they can be filled. Practically all of the new buildings, public and private, have been equipped with ample illumination. Yamens, schools, shops, theatres, hotels and residences have electric lights, with a rapidly increasing knowledge of their advantages and a desire for sufficient lights of the latest type. A good market for Heating and Cooking apparatus, as well as small Power Motors, is being developed. The G. E. Series Tungsten Street Lighting System has been generally approved by the Officials and Public, and is giving every satisfaction, as it is peculiarly adapted for the streets of a Chinese city.

Local Phases.—Due to the number of poorly constructed telephone lines and the inflammable interior walls and ceilings of houses, special attention and extra precautions have been taken to protect all circuits with enclosed safety fuses. Double the number of fuses that are used in American or European practice have been placed in the circuits. Wires of ample size have been used and special efforts have been made to securely fasten wires to insulators. The poles are set deep and well guyed, and strong cross-arms with iron insulator-pins support insulators designed for a much higher voltage than that in use.

Plant Data

| | |
|---|---|
| Normal capacity of present plant | 5500 lights—16 CP. |
| Lights in Operation | 5000 " Carbon. |
| Street Lights 60 C. P. Power | 300 Series Tungsten. |
| Miles of Streets Lighted | 10 |
| Miles of Pole Line Constructed | 23 |
| Miles of Wire on Poles | 70 |
| Capacity of Line Wires | 20000 lights. |
| Transformers Installed | 62 |
| Capacity of Transformers | 8000 lights. |

Plant Extension.—Shortly after the date of putting the plant in operation the management was convinced that the plant would be loaded to its capacity before the following spring, and arrangements were made for its extension. Owing to the high cost of fuel, the most efficient machinery would be most economical and it was decided to instal a 600 H. P. Curtis Steam Turbine driving General Electric Dynamos of 400 Kilo-Watts capacity and capable of supplying from seven to ten thousand lights, 16 c. p. carbon lamps each. To add to the reliability of the plant, a separate small Turbine driven Exciter Dynamo of 20 kilowatts capacity will be installed. The steam from the turbines will be condensed in Wheeler Surface Condensers and a high vacuum held with Electric Motor-driven Pumps. The condensed steam will be pumped direct to the boilers and used continuously, adding only sufficient water to make up for leakage. Babcock & Wilcox Boilers will be installed of the latest design and equipped with automatic Mechanical Stokers to regulate the supply of coal and control the fires. A Super-heater will be integral with the boilers to eliminate the danger of water in the steam. The boiler capacity will be sufficient for the two turbines.

The General Electric Company of New York has received orders for Transformers, Wire, Meters, Lamps and Wiring Supplies of the most approved design, which will be delivered this Spring. The quantities will be sufficient to bring the System to twelve thousand lights. The equipment for four hundred more G. E. Series Street Lights of the same type as adopted by the Shanghai Municipal Council, will also be delivered this Spring, with a number of Flame Arc-lights and miniature lights for advertising signs.

Commercial.—Although power for lighting is sold by meter cheaper than in other cities in China, the receipts for lighting service have considerably exceeded expenses from the start, and with the plant completed as now designed, the receipts will cover operating expenses and cost of extensions, and leave a reasonable profit on the invested capital.

TAOTAI HAN KAO CHIEN
COMMISSIONER OF FOREIGN AFFAIRS FOR THE MANCHURIAN VICEROYALTY

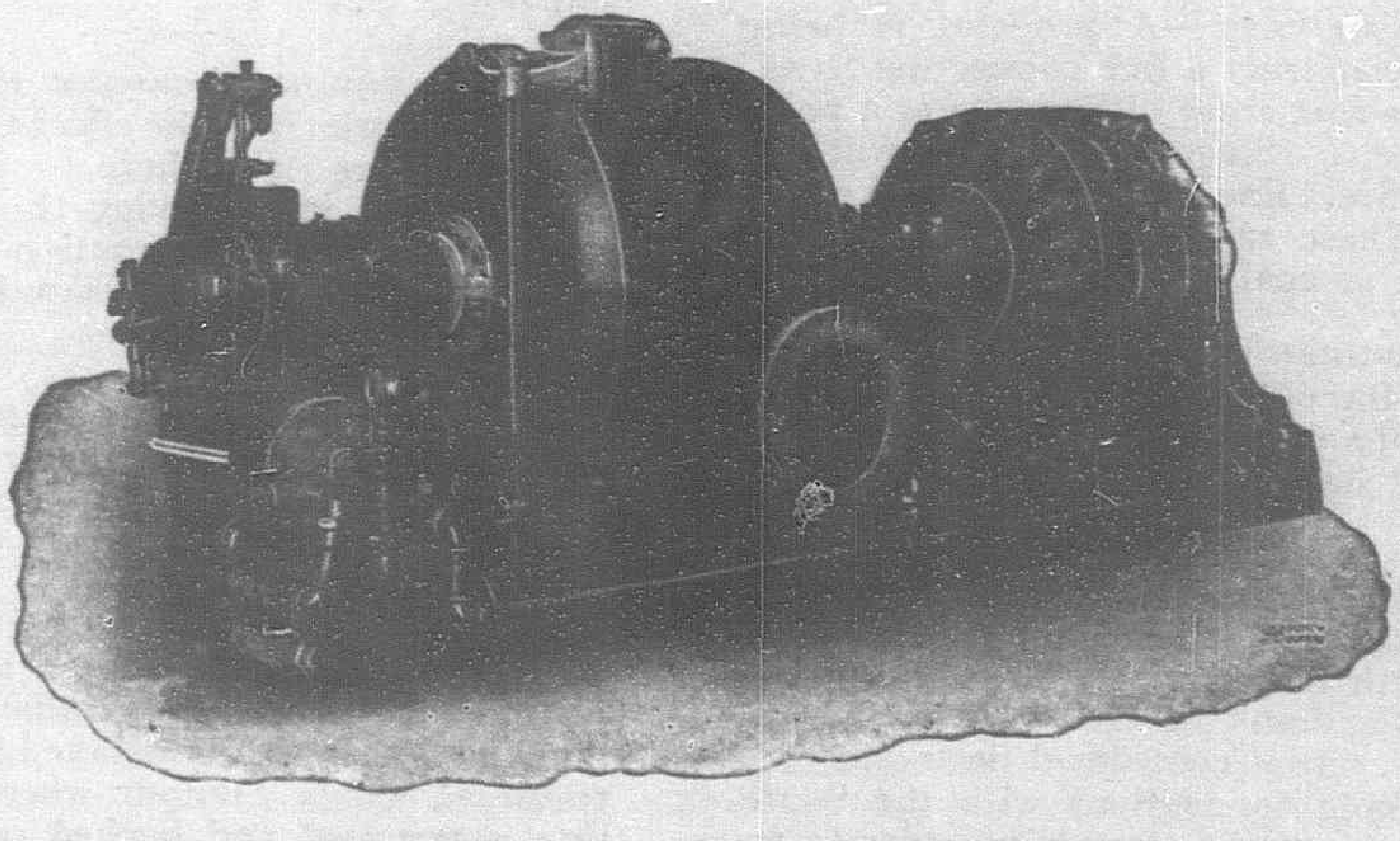
By next summer all of the mint machinery will be driven with 25 H. P. and 50 H. P. General Electric Company's three phase Induction Motors, supplied from the lighting dynamos, making it profitable to run the plant all day supplying motors installed in any part of Mukden, as well as fans and other electrical conveniences.

The credit for the success of this Plant must be given to Taotai T. Y. Key through whose foresight, ability to appreciate new conditions, and knowledge of engineering problems, it was made possible to complete the installation of the Plant in a space of time hitherto considered impossible in China. All the installation work (except some trivial pole setting done previous to the arrival of the General Electric Co.'s Engineer from New York and which it was necessary to do over again) was done between the dates of July 2nd, and September 30th, when lights were turned on a period slightly under three months, and the Chinese and Foreign inhabitants of Mukden have repeatedly given testimony to the extreme quickness with which the Engineer in charge successfully completed the work, after a proper beginning was made on his arrival.

## NEW FAIRBANKS-MORSE MARINE ENGINE CATALOGS

The quality, finish, design, attractiveness and completeness of the Fairbanks-Morse beautiful catalog No. 113 is very typical of their 1910 line of Two-Cycle Marine Engines, which are fully described and well illustrated therein. This catalog is handsomely gotten up, is printed on a high grade of enamel paper and contains many fine halftones and complete information covering their line of two-cycle engines. For 1910 they are offering a new Type "G" engine which has many improvements over their 1909 Type "F" and which is built in sizes from 6 to 45 HP in one, two, three four and six cylinders. This type embodies all the latest improvements and has a special feature of "auto-control" making it particularly adaptable to boats where the engine is located forward. The Type "E" two-cycle marine engine, sizes 3½ HP and 7 HP single and double cylinder, is also fully covered in this catalog No. 113, and we note the few changes in their 1909 design have added greatly to its efficiency. Both Types "E" and "G" are beautifully finished and of a design which presents a strikingly fine appearance.

The Fairbanks-Morse Four-Cycle line of Heavy Duty Marine Engines is fully described and illustrated in their new catalog No. 112B. These engines are so well known and hold such an enviable reputation for reliability and service that they need no particular comment. The sizes range from 20 to 100 HP and are built in two, three and four cylinders.



600 H. P. CURTIS STEAM TURBO DYNAMO SETS OF THE ABOVE TYPE TO BE INSTALLED AT MUKDEN

# FAR EASTERN RAILWAY NEWS

**The Gemas-Kuala Pilah Railway.**—This line, which connects Gemas and Kuala Pilah, a distance of approximately 36 miles in length, was opened for traffic by the F. M. S. Railways on April 4th. The branch from Kuala Pilah connecting with the East States Trunk at Bahua station is 13 miles in length and from Bahru to Gemas, 23 miles. The opening of this line brings Kuala Pilah within 162 miles by rail from Singapore.

The stations along the line are Kuala Pilah, Juasseh, Bahau, Rompin, Plangei and Jempol. The distance is covered in about two hours.

**New Shantung Railway.**—Negotiations are in progress between German representatives and the Chinese Government with reference to the construction of a line connecting Ichoufu with Tsingtao. It is understood that a loan is being arranged with the Deutsch-Asiatische Bank similar to the Pukow loan and the railway will be built by the Chinese. It is not improbable that the Government expects to receive some assistance in this construction from the profits of the Tientsin-Pukow line.

**The Canton-Kowlon Railway.**—H. E. Liang Shih-yi of the Board of Posts and Communications has been visiting Canton adjusting the difficulties on the Chinese section between the natives and the railway authorities. Recently a mob of about 3,000 threatened the destruction of this line and made a demonstration near the British boundary. H. E. the Governor of Hongkong recently made a tour of inspection over the British section, and with the exception of one bridge the trip was made from Kowloon Point to the frontier by rail.

**The Yalu Bridge Difficulty**—As near as can be ascertained the negotiations between the Chinese and Japanese authorities with respect to the construction of this bridge have been satisfactorily concluded. The agreement as it now reads provides that the half of the bridge on the Manchurian side will be purchased by China after 15 years or the date upon which the Antung-Mukden Railway is redeemable. China is to establish a custom house on the western bank for the inspection of trains. Details are to be arranged later. It will be remembered that the boundary between Korea and Manchuria is established in the middle of the Yalu River. The sum of yen 5,000,000 has been appropriated by the Japanese government to cover the cost of this construction which is expected completed in 1912.

**Antung-Mukden Construction.**—With the recent open weather there has been renewed activity in construction, over 80,000 coolies being reported working on the line. Frequent collisions between the Chinese and Japanese police are reported, but an adjustment is expected satisfactory to both sides. The following signal stations have been converted to passenger stations:

Taling, Tatung, Fuchin, Chinkeng, Chinchia, Fenshuiling, Liuchiaho, Heikeng, Tafangshenling and Hamatang.

**Sumatra Railways.**—A proposal is being considered to construct a line connecting Sawa-Loento and the east coast of Sumatra at a point directly opposite Singapore. This will be followed by a direct line from the Ombilan mines to Padang. These railways will facilitate the transportation of coal to the coast.

**Peking Overhead Tramways.**—Advices from Peking are to the effect that the proposal of an American company to instal an elevated railway in Peking has been declined.

**The Kirin-Changchun Railway.**—The construction on this line is now under way and a site has been chosen for the Changchun station at a point north of the east gate of the walled city and on the bank of the Itung, a branch of the Sungari. It is considered desirable with a view to making connections with the South Manchuria at this point at once in order to facilitate the transportation of materials for the line.

**The Fukien Railway Company.**—The first section of this line was opened to traffic on May 9th. The terminus is at Seng Suu to which point the railway ferry carries passengers from Amoy. The section opened to traffic is only two miles in length and has taken over three years to complete on account of lack of funds. The construction and operation is entirely under the direction of Chinese.

**Peking Railway News.**—The following is a résumé of new railway lines to be constructed with Chinese capital and by Chinese engineers: The Tsang-Hsu Railway from Chinkiang by way of Tsing Kiang-pu to Hsuchow fu, a distance of 100 miles; Peking-Ching-wang-tao Railway or rather a branch of the Peking-Kalgan, a distance of 100 miles; the Tiao-Liao Railway running from the upper part of the Liao to Tiao Nanfu, Manchuria, a distance of 100 miles.

**Four Tracks for the Shimbasha-Hodogaya Railway.**—The Railway Board of Japan has decided to double the present double track on this section of the Tokaido line. Some difficulty is expected in acquiring the land necessary for the widening of the road bed.

**The Canadian Grand Trunk Line.**—With the completion of this Canadian Transcontinental railway in September the distance across the continent will be shortened by about 500 miles.

**Oil for Fuel in Japan.**—The use of oil for fuel for the locomotives on the line to Hachioji has been found satisfactory as a result of tests made last month and beginning the first of May, all the passenger locomotives will burn oil.

**Honan-Tunkwan Loan Agreement.**—This agreement as published in the *Sinwanpao* has twelve sections under which the railway agrees to borrow Tls. 2,000,000, the interest to be at the rate of 6.8% and the bonds to be taken up by the Kungyi bank at 95. The Kungyi Bank will advance Tls. 500,000 at once and the balance in September this year. A penalty for delay in advancing these sums is provided at the rate of Tls. 5 on every Tls. 10,000 per day. And if delay extends over a month he railway company may decline to accept the loan. The agreement to repay carries the same penalties. The revenue from salt duties will be given as security. The loan will extend over a period of eight years and may be retired previously at option of the railway. The bank must not interfere with the construction or administration nor be permitted to inspect the railway accounts. If the railway fails to meet its obligations in the payment of interest and principal when due, the railway company agrees to turn over the line with equipment, etc., to the Board of Agriculture, Industries and Commerce to be valued officially and the price decided upon turned over to the bank in payment in full for balance of loan unpaid.

**The Bangkok-Singapore Railway**—A report from Berlin is to the effect that two German engineers have left there to join the English staff engaged in surveying this line. It is expected that the construction will take over seven years. The line in Siam is approximately 950 miles in length.

**New Trans-Formosan Railway.**—A party of engineers is now engaged surveying the route of a railway from Bashi-ho on the west coast to Karenko on the east coast of Formosa.

**Railway Connections at Kuala Lumpur.**—Recommendations have been made for a readjustment of the through traffic from Penang to Singapore now greatly delayed by the large local traffic at Kuala Lumpur where the trains run into a terminal and backed out again instead of through a central as suggested by J. E. Bach, A. M. I. C. E.

**The Shantung Railway Company.**—The shares of this company have advanced to 130 as a result of the declaration of a dividend of six per cent. compared with 4.75% for 1908. The desire of the Chinese Government to acquire this railway has also been given as another reason for the advance in price.

**Malaya Railways.**—The budget considered by the Federal Council for 1910 dealt with an estimated revenue of $23,250,000, an expenditure of $26,000,000, and an accumulated surplus of $37,000,000 approximately. A second trunk line is being constructed between Negri Sembilan and Pahang and will prove of great benefit to the latter state which has been sadly in need of lines of communication to aid her development.

**The Chefoo-Weihsien Railway.**—Latest advices from Chefoo are very encouraging. Governor Sun Pau Tschi has guaranteed the balance necessary to make up the three millions for the construction of the section to Hwanghsien and construction on that section will begin early this summer. The Governor believes that when this section is completed and open for traffic that its success will encourage capitalists to provide funds for the completion of the line.

**Siamese Railways.**—The construction of the new railway bridge at Petchaburi is nearing completion. The trackwork has been completed as far as Cha-am and when he railway bridge is finished tracklaying will begin southward.

**Indian Workshops Improvement.**—*Railways* announces that the Railway Board has sanctioned an estimate for the new carriage and car shops of the North-western Railway at Lahore. The workshops of the East Bengal State Railway are to be turned into locomotive works and are located at Kanchrapara.

**The Szechuan-Hupeh Railway.**—A correspondent of the *North China Daily News*, writing from Chengti, reviews the history of the effort of the Chinese to build this line so as to avoid arranging a foreign loan for that purpose. He has taken the pains to make an abstract from the data available showing the receipts and disbursements of the company. Apparently Tls. 15,405,952 have been paid in and a balance of Tls. 10,421,958 remains on hand while nothing has been accomplished in the way of construction for the Tls. 5,000,000. Of the balance on hand it appears the most of it has been advanced to private firms.

At Hankow, Tls. 1,121,385 is invested in the Hangyang Iron Works while the rest, Tls. 4,130,970, is out at interest with private firms. At Chengtu Tls. 782,202 is out in the same way. Tls. 46,136 has been invested in a Tannery and Tls. 100,000 in an opium refuge. The whole of the sums at Shanghai, viz: Tls. 3,439,779 and at Chungking, viz: Tls. 690,102, are also let out at interest with private firms.

Work is being commenced at last on the first section from Ichang to Kweifu in Hupeh, a distance of 90 miles, which is expected to absorb Tls. 10,000,000. The correspondent is not impressed with the capacity of those in charge to carry out the work to a successful conclusion and predicts that the line will eventually have to be subjected to foreign expert and financial assistance or it will never be constructed.

**The Siberian Railway Prospects.**—It is not generally known that during the last year on the Siberian Railway extending from Cheriyabinsk to Irkisk, a distance of approximately 2,000 English miles, the freight carried was over 30 per cent. greater in volume than in the previous year while the receipts increased by about 20 per cent. When it is known that this line was being operated at a loss not more than three years ago it would be well to reserve opinion on the future of the Trans-Baikal or the Chinese Eastern Railway with which lines the Siberian line is often confused. Commenting on the relation of the Siberian Railway with other Russian lines the *China Tribune* offers some interesting information that tends to show that this line promises to become the most profitable in the Russian Empire. A glance over the statistics for the eight months from January to August, 1909, says the *Tribune*, will show that the entire receipts of the Government railways in Russia amounted to 357,000,000 roubles. This is an increase of 10,000,000 roubles over the gross receipts during the same period of the year before last. On the other hand, the expenses aggregated 284,000,000 roubles, 13,000,000 less than the sum spent during the previous year, while the net receipts in the eight months in 1909 show an increase of 23,500,000 roubles over that of the corresponding period in 1908. What portion then did the profit of the Siberian Railway contribute toward this aggregate amount?

In regard to the freight traffic, the amount the Ekaterinskaya, the Southern, and the South-Western Railways handled was each an increase of about 27,000,000 poods over the goods transported during the previous year. Like the abovementioned lines in European Russia, the Siberian Railroad also increased the volume by the same amount, that is to say 32% increase. But the railroads near Moscow and those in Poland and Central Asia all experienced a decrease of freight.

In regard to the gross receipts, the South-Western Line leads the list with 39,900,000 roubles followed by the Southern Railway, 37 million roubles, and the Ekaterinskaya Line, 34 million roubles. The Siberian Railroad comes next with 32,000,000 roubles which is an increase of 5,100,000 roubles or 19% over the receipts of the previous year.

Concerning the expenses, the South-Western Railway spent 27,500,000 roubles, while 24,500,000 roubles and 24,000,000 roubles were spent respectively by the Southern and Ekaterinskaya Lines, against 20 million roubles of the Siberian Railway. When the matter is looked at from the point of net profit, the latter line cleared 12 million roubles and occupies the position second to the South-Western Railway, 13,000,000 roubles, of all the Government railway in Russia that made money.

It is expected that notwithstanding many alterations in the Eastern and Western Sections the double tracking of the Siberian Railway will be completed by the end of 1912. According to *Engineering*, from St. Petersburg, the actual line proceeds via Wiatka in an easterly direction to Perm. The old line went from Perm first northeast and then south, via Nishny Tagilsk, along the Ural Mountains to Jekaterinburg. This section had a length of 310 miles. The new almost completed track cuts in a nearly straight course from Perm via Kuara to Jekaterinburg, avoiding the mining districts which the old line served, and reducing the length of the section to 244 miles. Beyond Jekaterinburg the old track led via Cheljabinsk and Tjumén to Omsk, on the River Irtisch. The new track passes via Cheljabinsk and Kurgan (on Asiatic territory), and Petropavlosk to Omsk, 100 miles will be saved on this section, which has only recently been taken in hand. The direct service from St. Petersburg to Omsk is to be carried on at a minimum average speed of 26 miles per hour. Further important changes and additions are planned in the Extreme East. So far, the line cuts through Manchuria, where the railway is partly under Russian and partly under Japanese administration, and ends at Vladivostock, the Russian port on the Japanese Sea, in the same latitude as London. Peking is reached from Harbin junction in Manchuria by a branch proceeding to the southeast via Mukden and Hsinmintun. In order to connect Peking directly with the Siberian, and thus with the European, railway system, a line is to be built from Peking north, through Eastern Mongolia. The section of this line which lies in China proper, from Peking to Kalgan, is already working; this section has a length of 135 miles. Following more or less the great caravan route across Eastern Mongolia, the railway is to join the Siberian system via Kiachta, south of Lake Baikal, near Myssowaja; this Mongolian railway will have a length of nearly 1000 miles. When these projects will have been carried out, the journey from Paris to Peking, a distance of about 6300 miles (instead of 7500 miles via Harbin and Mukden), will be completed in 9½ days; at present it takes nearly fourteen days. The lengths of the various sections, and the average times to be taken on them, are the following:—Paris-Berlin, 626 miles, in 18 hours; Berlin-St. Petersburg, 1020 miles, in 20 hours; St. Petersburg-Perm, 1075 miles, in 41 hours; Perm-Irkutsk, 2315 miles, in 90 hours; Irkutsk-Kiachta, about 300 miles, in 12 hours; and Kiachta-Pekin, about 390 miles, in 40 hours.

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**The Shun-Chi or the Shuntehfu-Chinanfu Railway Project.**—Peking advices are to the effect that the construction of a railway connecting Shuntehfu in Chihli, province and Chinanfu in the province of Shantung, covering a distance of 480 li or 170 miles, 100 miles of which will run through Shantung and 60 miles in the province of Chihli, has been authorized. The route chosen passes from Chinanfu through Chiho, Yucheng, Hsiatsin, Jenping, Kaotang, Linching and Kuantao in Shantung, thence into Chihli via Chuchou, Weihsien, Pingsian, Kwangtsung, Nanho, Hsingtai and joins the Ching-Han Railway at the Shuntehfu station.

The construction of this line offers few engineering difficulties as the country through which it will pass is generally level. There are in all twenty-two rivers and canals to cross, including the Yellow River, and it is proposed to utilize the bridge of the Tientsin-Pukow at Lokou. Of the balance of the rivers none exceed a width of 130 feet. The cost of the entire line is estimated at Tls. 5,000,000. While the districts through which it will pass has suffered from severe floods and the natives are very poor, under favorable conditions the line will pay well. It will be of great strategetic and political importance to the emipre.

The project was first proposed several years ago, but the Tientsin-Pukow Railway project took precedence and it was not until a year ago that the matter was again taken up by H. E. Hsu Shih Chang who directed the Viceroys of Chihli and the Governor of Shantung to present new petitions asking for the construction of this line. Governor Sun Pao of Shantung dispatched engineers to verify the line and report and the result was the approval of the line by the Peking authorities.

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**Medals for Chinese Railway Employees.**—The Board of Communications recently submitted a memorial to the Throne proposing to confer medals on the various staffs of the steamship, railway, telegraph and posts administrations as an encouragement for those who prove efficient and industrious. An official résumé of the deliberations of the Board on this subject was also submitted in which that body announces that the services of steamship, railway, telegraph, and posts are established for the purpose of providing easy means of communication and adds that, although the Board is in charge of the interior management of these administrations, it depends to a great extent upon the staffs to properly fulfil this mission. Quoting from the Board's deliberations, we find that it reached the conclusion to recommend medals as follows: The staffs employed in the various offices of the telegraph and railway administrations, such as engineers, mechanics, police inspectors, operators, and many others, are already very large and will be greatly increased when the steamship and posts administrations revert to its control. Thereupon it shall be the duty of the board to provide regulations for punishing the lazy and rewarding the industrious. There being no prospect of any member of any of these staffs to secure higher position or official rank while, on the other hand, he is subject to fine for trifling offences and punished or dismissed for severe offences, just how to reward them is a difficult problem. To grant them official rank which they do not deserve or to reward them with increase in pay do not seem feasible. The former is not to be considered and the latter would result in good deeds bankrupting the treasury. Therefore it has been decided that the most feasible way of granting rewards for good service is to confer medals similar in form to those issued by the Board of Interior, of which there are five classes with ranks—from the 5th to the 9th rank—in recognition of good services rendered.

**Reorganization of the Peinlo Railway Staff.**—The Board of Communications lately memorialized the Throne on the subject of reorganizing the foreign and the Chinese staffs on the Peinlo Railway with a view to reducing expenditure and reforming its administration. This line runs through the province of Honan from Keifengfu to Honanfu. In the loan agreement concluded with the Belgians in the 29th year of Kwung Hsu in connection with the construction and operation of this railway, it was stipulated that the Chinese Railway Administration should appoint the members of the staff. Recently the Board of Communications was advised that the Belgian Syndicate had assumed control of the traffic in Keifengfu and the former interpreted this action as an attempt on the part of the latter to usurp the powers of management with the intention of employing an additional number of foreigners. The Board noted in its memorandum that while steps had been taken to dispense with the services of those foreigners who could be spared, only a few of this number had been discharged. After serious consideration of the question the Board has decided that reorganization or change in the administration of a railway as soon as it is opened to traffic is the remedy to prevent the management of the traffic reverting to foreigners.

As a result, the Director of Railways, H. E. Liang Shih Yih, has been instructed to arrange with the Belgian Syndicate for the reduction of the staff and to make an inspection of the line with a view to reorganization of the administration as well as officers and employees. In addition, he is to confer in company with the manager of the line, with the Chief Belgian Engineer, with a view to negotiating with the head office of the Syndicate in Europe on the question of the reduction of its staff. Under the following five headings the Board has decided to direct the reduction of the staff of this line:

1. Staff in the Managing Department, out of the officers in charge of the purchasing of land and policing, interpreters, clerks, medical officers—19 in all—three will be retained.

2. Engineering staff:—Out of the overseers, interpreters, tracers, paymasters—42 in all—11 will be retained. All the staff now employed in the repairing of the roads, creek and bridges will be dispensed with as soon as the work is completed.

3. Traffic staff:—Although the traffic on this line may be increased, the line is not long enough to require a traffic manager. Only one foreign district inspector is to be stationed at Changchow together with three Chinese district inspectors.

4. Factory Staff:—One factory district inspector and four Chinese mechanics at the locomotive factory to be required.

5. Staff at the head office of the Belgian Syndicate in Europe:—It has been decided that from the 1st month of the next foreign year the yearly salaries of the managers, engineers, and secretaries, will be reduced and that the services of one special engineer will be dispensed with

It is estimated that 15,000 francs additional can be saved and the Belgian Syndicate has agreed to the reduction. The staffs as compared with the number employed at the end of last year will show a reduction of 26 foreigners and 23 Chinese thereby saving the sum of Tls. 52,000 annually

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**The Kaifengfu-Suchow-Haichow Railway.**—A memorial was presented to the Throne on March 8th by the Board of Communications asking Imperial sanction for the construction of a railway connecting Kaifengfu, in Honan, and Haichow, a seaport on the Northern Coast of Kiangsu. According to the memorial the Chinese Government has completed the survey and the report of the engineers furnishes many points in favor of an early construction.

Between Kaifeng and Suchow two routes were considered. One reaches Hsuchow via Chenliu, Kihsien, Suichow, Ningling, Kuite, and Tangshan, while the other is via Lanfeng, Kaocheng and Liukow, along the old course of the river Houng-ho to Suchow. The latter

# PHILIPPINE MINING NEWS

The Headquarters Mining Company.—A ten-stamp battery, with tube mill and complete equipment for cyanide plant, is now on the way from the United States and will be installed by the end of January. Mr. E. C. Durell, superintendent for Messrs. Allis Chalmers, Milwaukee, will instal the machinery. The investment represents ₱200,000 and every preparation has been made for the reception of the plant. It is estimated that there is already ₱1,000,000 worth of ore in sight. It might be mentioned that included in the plant is a Ridgeway vacuum filter press to be utilized in treating the slimes. An automobile road has been completed from this property connecting with the Antimok road about one and one-half miles in length.

Mr. Peddigrew, a well known mining expert from San Francisco, has been visiting the Benguet region and looking over the Madison group. He spent two weeks in the vicinity of Baguio and seemed impressed with the prospect for development of the mining deposits of that region.

The Muyot Mining Company's Claims.—Last month, Mr. J. R. Flynn Anderson of the Transvaal Goldfields has endorsed this group as a low grade proposition, but on account of the inexpensive working claims it will pay a very fair profit from present indications. In concluding an interesting review of values and favorable location with a view to further development, he concludes: "As an example of mining in Benguet the Muyot mines are distinctly encouraging both as regards ore bodies and apparent values, and such work as is being accomplished here augurs well for the ultimate future of what promises to be a great mining camp." There are about 75,000 tons of ore in sight and 3500 feet of work has been done.

The East Batan Coal Mining Company.—The capacity of this company now averages 200 tons a day and the coal sells at Manila in *competition with other coals at ₱8.00 a ton.* The coal is sold at the mines at ₱6.50 and this price would practically shut out competition were the capacity of the mining plant sufficient to supply the demand. Transportation is one of the local problems in view of the shortage of vessels in the inter-island trade, and as a result the company is filling foreign orders. The main tunnel is about 1,500 feet long and the coal is being extracted at a depth of about 450 feet. The plant is being reinforced by new coal cutting machinery including two radiolax and three punchers which, when installed, will bring the output of the mine up to about 750 tons daily. These machines should be installed by the end of next month. The quality of the coal is improving as greater depth is reached.

Activity in Nueva Ecija.—Several groups of placer in this district have been tested and proven very satisfactory. Negotiations are under way for the installation of dredges and it is believed that at an early date several large contracts will be concluded which will lead to general development work in that district.

Mancayan Copper Report Corrected.—The Mining Division of the Bureau of Science has corrected the following statement appearing in page 51, Bulletin 44 of the PhilippineMining Bureau:

"'The lowest tunnel (of the old Mancayan Mine) a regular and large gallery, driven for drainage, has in its present length and in the side drifts, which are under the greater part of the other workings, no sign of ore—in decided contrast to the rich values of a few feet above.'

"This tunnel has since been cleaned out and extended and there is ore to be seen in many parts of it now, though apparently not so rich as in the upper workings. One very rich pocket can be seen which was formerly under water."

New Machinery for the San Mauricio.—Classifiers are being added to the plant and an increase in the percentage of values extracted of 16% is expected.

Masbate Deal Being Negotiated.—The Philippine Exploration Company has secured an option on the property of the Syndicate Mining Company's in Masbate. The option provides for development work on the prospect.

Paracale Mining District.—Mr. George Laduc has decided to make extensive development of the Navotas Claims in which he and Mr. George C. Sellner of Manila are interested. *The group comprises 13 claims.*

Mr. F. B. Morehouse, a mining expert, is now in Paracale in charge of development work on the Gumaus quartz claims, an option on which was recently secured by Mr. A. Heise. The terms of the option require a certain amount of development work by the holder during the next six months.

The Stanley Dredging Company was shut down about two weeks during the month of April for repairs. The total production for the month was 90 ounces valued at ₱3150. During the last sixty days this dredge has been working through a ridge, but is now reported that it will shortly be on rich bottom ground again. The tests show that this ground is very rich and large returns may be expected from the dredge beginning June 1st.

The dredge of the Philippine Gold Dredging Company has been taken over to the Malaguit River and should be in operation by the middle of June.

The Bua Mining Company.—The returns from this company reported during the month amounted to 331 ounces valued at over ₱10,000. These returns were from the Gomok claim. Superintendent O'Shea was passenger on the Minnesota to the United States where he will enjoy a vacation.

# CONTRACTING NEWS

Bids Opened.—Bangkok Waterworks.—4,500 tons cast iron pipes, joints, bolts, etc.

Messrs. Macfarlane, Strang, and Co., of Glasgow (Falck and Beidek), Cast iron pipes £6 17s. 6d., per ton; joint bolts £1 6s. 6d., per 100 kilos; rubber rings £56 per 100 kilos.

Société Anonyme du Pont á Mousson, France, cast iron pipes £6 15s.; joint bolts, £1 18s.; rubber rings, £60.

Société Métallurgique de Périgord, France, cast iron pipes £7 15s. 2d., joint bolts £2 11s. 7d.; rubber rings, £5 13s. 7d.

Messrs. Physsen, of Milhein, Rhenish Prussia, tendered for steel pipes, £17 10s. 5d.; joint bolts, £2 8s. 6d; rubber rings, £55.

Messrs. Stanton Iron Works, England, (Howarth Erskine, Ltd.). The prices of pipes varied from £5 5s. to £6 4s.

Messrs. Mannesmann, Dusseldorf, Germany, tendered for steel pipes and joint bolts, prices ranging from £1 3s. 2d; to £15 10s. 8d. and a total of £884 6s. 11d.; for rubber rings. They also submitted two offers, one of £39,445 11s. 1d.; for the work complete, and one of £34,112-17-3 for pipes and joint bolts alone.

Contract Awarded—Shanghai Municipality.—Installation of Water Service Sinza Fire Station.—The Shanghai Waterworks Co., Ltd., Tls. 2,170. The other bidders were The Vulcan Iron Works Ltd., Tls. 3,120, and Messrs. Gordon & Co., Tls. 2,190.—Installation Electric Light and Bells at Sinza Fire Station.—Messrs. E. E. Porter & Co., Ltd., $770. The other bidders were Messrs. Jardine Matheson & Co., Ltd., $830, and the Shanghai Electric & Asbestos Co., Ltd., Tls. 610.91.

Bids Opened at Seattle.—U. S. Quartermaster's Department, 400,000 feet of Lumber. —W. R. Grace and Co., delivery Port Blakeley $32,201.43, delivery Manila $51,035,29; Tacoma Mill Company, delivery Manila, $29,072.40; Wilson Brothers of Aberdeen, delivery Manila $54,309.23; Balfour, Guthrie and Co., delivery Manila, $46,739.52; Pacific Export Lumber Co., of Portland, delivery Portland, $20,816, delivery Manila, $48,451; Charles Nelson Lumber Company of San Francisco, delivery Puget Sound, $33,163.64; J. Ernest Laidlaw, of Portland, delivery Portland, $29,816.13, delivery Manila, $48,948.15.

The figures submitted by various firms for transporting the lumber from the Sound or Columbia river to Manila runs from $7 to $9 a thousand as follows: $7 to $9 a thousand as follows: Guthrie, $7; Pacific Export, $7.51; Laidlaw, $7.50."

Contract Awarded.—Philippine Bureau of Public Works.—Filling in General Hospital Grounds.—H. Thurber was only bidder, price ₱13,000.

Bids Opened.—Philippine Bureau of Public Works.—Buliding Addition to Ayuntamiento, Manila.—E. Martin, ₱29,000; M. B. Zarate, ₱28,855; Manila Saw Mill, ₱28,990; Delmar Smith, ₱19,290; John Gordon, ₱29,800; Manila Construction Company, ₱23,750; R. M. Loper; ₱28,740, and M. X. L. Weinberger, ₱22,370.

Bids Opened.—U. S. Quartermaster Department Manila 65,000 Tons of Coal.

Mitsui Bussan Kaisha for lump coal and washed nut, both Miike shipside Manila $4.47, Iloilo, Cebu ex ship $5.15, all other $5.47. Piled on shore Manila $4.75, Iloilo, Cebu 5.97 All other 6.37. Macondray & Co., Newcastle Walsend, all ports ex ship $5.07, Manila piled $6.07. Stevenson & Co., West Walsend, Australian, Manila ex ship $5,00, Iloilo, Cebu, $5.225, all other ports $5.475. Piled Manila $5,18, Iloilo, Cebu $6.03. Figueas F. T. Scott, Fell & Co. Australian Coal, Mt. Kemtly, Mt. Peasant, Corrimal Balgownie Osborne Wallsend, Manila ex ship $5.60, Piled Manila $5.80, other ports add $1.30. Ker & Co. Australian Coal, Mt. Kemtly, West Wallsend, Mt. Pleasant. Manila ex ship $5,275. All other ports $5.775, Manila piled $5.50. All other ports $6.05. Smith Bell Co., Australian Coal, Seaham, Manila ex ship $4.99, Iloilo, Cebu, $5.25, $5.24, other ports $5.48, Manila piled $5.19, Iloilo piled $6.04, Cebu piled $6.05. All other ports plied $6.58.

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or northern route runs through a flat country, making the cost of construction less than the former, or southern line. The southern route has the commercial advantage of tapping the flourishing towns in the province and from a political and military point of view is more desirable. It has, therefore, been decided to adopt this line. From Hsuchow there are three proposed routes to Haichow. *The first is straight running* eastward via Peichow. The second runs in a curve south-east to Hsuchien and then turns north-east to make Haichow. The third is via Hsuchien to Chingkiang, from which place it turns northwards to Haichow. Of these three lines, the first is the shortest and least expensive one, but the construction of the Hsuchow-Chingkiang section having already been awarded the Kiangsu Railway Company, it has been recommended that the third route be adopted.

The cost of construction estimated, and the length of each section are given below.

Kaifeng to Hsuchow, 560 li (185 miles), Tls. 6,700,000;

Hsuchow to Chingkiang (this section to be built by the Kiangsu Railway Company);

Chingkiang to Haichow, 260 li (86 miles), Tls. 3,000,000;

Extension to the beach and harbour improvement at Haichow, Tls. 2,800,000.

With other minor items it is estimated that about Tls. 14,000,000 in all will complete the line which compares favorably with the cost of construction of any of the Chinese railways while the prospect for this road is almost as bright as the Peking-Mukden and the Peking-Hankow in the matter of profits.

The Board of Communications has recommended that in view of the expenditure from the profits of the Peking-Mukden, Peking-Hankow and the Peking-Kalgan for the construction of the Kalgan-Kuihuacheng, Kirin-Changchun, Cheng-Tai, Tai-Cheng, Pien-lo and the Shanghai-Ningpo lines exhausting all available funds from those sources and for the reason that there is a strong sentiment against foreign loans, that the construction be spread over a number of years with such domestic funds as may be made available and that the more important sections receive earliest attention. By this course the Board is endeavoring to avoid undue pressure being brought upon the resources of the Empire.

CONTRACT AWARDED.—U. S. Quartermaster, Manila.—Construction reinforced concrete post exchange.—M. E. Martin, ₱44,600; the other bidders were: H. Thurber, ₱70,575; M. C. Wineberger, ₱71,250 and Delmar W. Smith, ₱67,438.

BIDS INVITED.—Philippine Bureau of Supply. —40,000 tons of coal.—Bids opened June 25.

ADVANCE INFORMATION.—U. S. Naval Station, Philippine Island. Tenders will be invited in about four months. Approximately 600,000 feet Oregon pine, catalogue "E" Pacific Coast Lumber Manufacturers' Association, as follows:

200,000-Ft., 12"x12", one half 31' to 40', one half 41' to 50' lengths.
50,000-Ft., 8" x8" 16' to 32' lengths.
20,000-Ft., 6"x 6", 16' to 32' lengths.
25,000-Ft., 4"x12", 31' to 40' lengths.
75,000-Ft., 3"x12", 31' to 40' lengths.
50,000-Ft., 2"x12", one half 16' to 32', one half 33' to 40' lengths.
25,000-Ft., 2"x10", one half 16' to 32', one half 33' to 40' lengths.
25,000-Ft., 2"x 8", 16' to 32' lengths.
100,000-Ft., 1"x12", 16' to 32' lengths.

PROPOSALS FOR MINERAL OIL.—Chief Quarrmaster, Philippines.—Opened June 1st, 5,000 gallons.

posals FOR SUPPLYING PORTLAND CEMENT.—Municipality of Shanghai—Bids Opened July 2, 1910.

PROPOSALS FOR SUPPLYING FRESH BEEF.—U. S. Naval Station, Philippines.—1,500,000 pounds frozen beef and 100,000 pounds frozen mutton.—Bids Opened June 13.

THE FUKIEN RAILWAY COMPANY, AMOY, is prepared to receive bids for the construction of a reinforced concrete railway bridge of seven arches across the North River about 20 miles from Amoy. The cost is estimated at about ₱450,000.

PROPOSALS FOR TWIN SCREW HARBOR BOAT.—Headquarters Philippines Division, Office of Chief Quartermaster, Manila, P. I., April 20th 1910. Sealed proposals, in triplicate, subject to usual conditions, for the construction and delivery to this Department, complete and ready for service, of one Twin Screw Harbor Boat, will be received here until 11:00 a. m., June 10th, 1910, and then publicly opened. Plans, Specifications and other information furnished upon application. F. G. Hodgson, Deputy Quartermaster General, U. S. Army, Chief Quartermaster.

HEADQUARTERS PHILIPPINES DIVISION: Office of Chief Quartermaster, Manila, P. I., April 22nd 1910. Sealed proposals in triplicate, subject to the usual conditions, for furnishing machinery to the Quartermaster Department, will be received here until 11:00 A. M. June 15th, 1910, and then publicly opened. Blank forms and information furnished upon application. F. G. Hodgson, Deputy Quartermaster General, U. S. Army, Chief Quartermaster.

# FAR EASTERN ENGINEERING, CONSTRUCTION, FINANCIAL AND COMMERCIAL NEWS

## ELECTRIC RAILWAYS, LIGHT, POWER, TELEGRAPHS, TELEPHONES, AIRSHIPS, AUTOMOBILES, ETC.

TELEGRAPH CONNECTION FOR THE PARACALE MINING DISTRICT.—The sum of ₱2,800 has been allotted by the Philippine Government for the construction of a telegraph line connecting Daet, Camarines, and the Paracale district. This installation will prove a great convenience to the mining men in this promising district.

PENANG ELECTRICAL SUPPLY.—The report submitted for the year 1909 shows the net receipts to be $46,078, an increase of $20,000 over the previous year. The tramways show a profit of $5,116 notwithstanding a loss through interference by floods of $9,000. It is also $2,000 better than the previous term.

DAIREN WHARVES ELECTRICAL EQUIPMENT.—Electrically driven cranes will be installed in all the principal warehouses to be used in facilitating the loading and unloading of cargo.

THE SIAMESE TRAMWAY COMPANY, LTD.—The following is the statement of accounts for the year ended December 31st:

|  |  |  |  |
|---|---|---|---|
| The gross receipts for the year were |  | Tcs. | 411,704.07 |
| and Working Expenses........ |  | " | 279,027.37 |
| Leaving a gross profit of...... |  | Tcs. | 132,676.70 |
| From which is to be deducted |  |  |  |
| Interest........Tcs. | 69,466.89 |  |  |
| Bad debts......Tcs. | 330.13 |  |  |
| Depreciation...Tcs. | 61,600.00 | Tcs. | 131,397.02 |
| Leaving a Balance of.......... |  | Tcs. | 1,279.68 |

which it is proposed to carry to next year's account.

In their report, the directors state that the year 1909 has practically been a repetition of 1908. As for expenses a considerable part has again been spent in improvements; cars and lines, especially the overhead part, are now in much better condition than 3 years ago; and we still have the hope that the first year of prosperity in Bangkok will enable us to pay a fair dividend.

By special resolution gradual conversion of our 8% debentures to 6½% has been decided upon, and the first redemption of Tcs. 125,000 will take place May 1.

HYDRO-ELECTRIC GENERATION.—The Japanese Government has decided to expend the sum of yen 1,500,000 in five consecutive years in an investigation of the adaptability of the different water courses throughout the empire for the generation of electric current. An office is to be established in Tokyo with the Vice-Minister of Communications in charge and the Director of the Electricity Bureau as his assistant. Seven branch offices will be established at Nagoya, Osaka, Hiroshima, Supporo, Sendai and Kumamota. In addition there will be thirteen sub-branches so divided as to cover all the areas where research may be considered of general benefit. The purpose of this organized investigation on the part of the government is mainly to conserve the natural water power locations and to make recommendations as to the application of this force in the development of different industries now lagging in different sections of the country.

HONGKONG WIRELESS ORDINANCE.—The following regulations have been issued by H. E. The Governor of Hongkong by authority of the recent Wireless Ordinance:

"All apparatus for wireless telegraphy on board a merchant ship in the territorial waters of the Colony shall be worked in such a way as not to interfere with (*a*) Naval signalling, or (*b*) the working of any wireless telegraph station lawfully established, installed, or worked in the Colony or the territorial waters thereof, and in particular the said apparatus shall be so worked as not to interrupt or interfere with the transmission of any messages between wireless telegraph stations established as aforesaid on land and wireless telegraph stations established on ships at sea.

"No apparatus for wireless telegraphy on board a merchant ship shall be worked or used whilst such ship is in any of the harbours of the Colony except with the special or general permission in writing of the Postmaster-General of the Colony.

"If at any time in the opinion of the Governor an emergency has arisen in which it is expedient for the public service that His Majesty's Government should have control over the transmission of messages by wireless telegraphy, the use of wireless telegraphy on board merchant ships whilst in the territorial waters shall be subject to such further rules as may be made by the Governor from time to time, and such rules may prohibit or regulate such use in all cases or in such cases as may be deemed desirable.

"These regulations shall not apply to the use of wireless telegraphy for the purpose of making or answering signals of distress.

THE HONGKONG ELECTRIC COMPANY, LTD.—The following information in regard to last year's working has been gathered from the report presented by the chairman at the last meeting of the company:

"The balance at credit of Working Account amounts to $169,595.48, as compared with $152,381.49, the balance resulting from the previous year's working. This increase has been obtained both by increased economy, due to the satisfactory working of the Diesel plant installed in 1908, and, what is more satisfactory, by an increased output of electricity, notwithstanding the falling-off in many of our consumers' accounts, due to the introduction of the more efficient Metallic Filament Lamp. The fall of revenue, due to wider extended use of the more efficient lamp, is likely to continue, especially as the price of these lamps becomes reduced, but we hope that as in the past the net result will be that our output will continue to be increased by fresh consumers attracted by the efficiency and economy of electric lighting. The sum standing at the credit of Profit and Loss Account amounts to $174,790.96. After deducting Director's Fees ($3,000) the sum of $171,790.96 remains available for appropriation, which your direc-

**BRICKWORKS MANAGER**—An expert Brickworks Manager, at present holding position as Manager of Large Brick, Tile, and Pipe works in the East, will shortly be disengaged on the expiration of a large contract at present in hand, and will then be prepared to consider offers for a similar appointment with some firm of standing or to advise upon and draw up full working plans of plant and works for the manufacture of Brick, Tiles, Terra cotta, Earthenware, Glazed goods and all kinds of Cremonic work.

Excellent testimonials from leading firms both in England and in the East.

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**Far Eastern Review**

13 NANKING ROAD

tors propose to deal with as follows:—To pay a dividend of 12 per cent., say, $1.20 per share, on 60,000 shares, $72,000.00; to pay a bonus of 1 per cent., say, 10 cents per share on 60,000 shares, $6,000.00; to write off Plant Account for depreciation, $72,065.65; to write off Property account for depreciation, $5,000.00; to write off furniture Account for depreciation, $477.00; to pay a bonus to the staff, $4,450.05; and carry forward to next account, $11,798.26, making a total of $171,790.96. This proposal, I trust, will receive your sanction and approval, following, as it does, the past policy of your Board, in writing off for depreciation of plant and property at least an equal amount to that paid in dividends. To the adoption of this policy, the present position of the Company may largely be attributed. The very success of the Diesel plant renders it most necessary to clear off from our books the value of the steam plant, which was previously in use, but is now practically only a stand-by in case of an unforeseen breakdown of the Diesel engines. Two of the older steam sets that were no longer of service to us have been disposed of at modest prices, such as indicate the necessity for a continuation of a rigorous policy of writing down our assets. The station buildings have, to a certain extent, been further remodelled during the year and a third Diesel set is now in process of erection on the site formerly occupied by the steam sets before mentioned. The cost of this Diesel set has yet to be debited to our Capital Account, but we trust that the further economies resulting from its working will fully justify the somewhat large outlay we shall shortly have to make. During the year an amount of about $45,000.00 has been spent in extending our system of underground mains throughout the Chinese part of the city and a portion of the central district. This expenditure has been incurred in displacing large portions of our old overhead system, and, whilst it can hardly be expected to bring us immediately any large increase in revenue, we trust that by the provision of a more efficient and certain service, it will be the means of attracting further consumers in these districts. The extension of our underground distribution to the West Point District in 1909 has resulted in the addition of a number of new consumers amongst the Chinese and already may be said to have justified the outlay on that extension."

Yokohama Electric Joint Stock Company.—This company has issued a prospectus dealing with a proposed project for the diverting of hydro-electric power generated at Koyama and Tonosawa to Kodzu so as to supply the Yokohama Electric Railway and the Fuji Gassed Spinning Company with power. A contract with the Tokyo Electric Light Company for any surplus is also proposed.

Swatow-Haiching Motor Service.—It is reported in the native press that a company with a capital of $200,000 has been organized for the purpose of installing a motor car service between these two points. The distance is about four miles.

Philippine Wireless Service.—The following gentlemen have been appointed members of a board to consider plans for the installation of an effective wireless telegraph service throughout every section of the islands, viz: The Hon. Charles D. Elliott, Secretary of Commerce and Police, Colonel George P. Scriven, U. S. A., and Commander C. M. Keppner, U. S. Navy.

Penang Electric Railway Extension.—The sum of $15,000 has been appropriated by the Municipal Commissioners for the extension of the line from Penang Road terminus along Chulia Street to Penang Street.

Electric Lifts for Astor House Hotel.—Messrs. Brighten Malcolm & Co. have secured the contract for the installation of electric elevators in the Astor Hotel extensions.

Dairen Electric Light.—The second boiler has been installed in the power house, and with this additional equipment the service has been greatly extended.

The Philippine Telephone and Telegraph Company.—This company has been busy laying its wires underground and it is expected by the end of the year that there will not be an overhead wire owned by this company within the city limits. In addition to this the company is considering the establishment of a long distance service connecting Baguio and all the towns in Northern Luzon with Manila.

The Yokohama Electric Railway Company.—This company has applied for a concession to construct a railway between Yokohama and Dzushi by way of Hagoromocho, Hisikatacho, through Kanagawa.

Manila Electric Lighting System.—The city electrician has recommended a readjustment of the street lighting and the introduction of the series Tungsten lights. Under the new distribution it is proposed to instal 199 series Tungsten and 11 arc lights. The arc lights are being installed and the Tungsten will follow as soon as arrangements can be made with the electric light company.

Readjustment of Shanghai Electric Tramway Fares.—The general manager of this company has increased the number of fares points on the four different routes from 32 to 47 and also made a corresponding reduction of fares in the different classes. A previous doubling of fare points and a reduction of fare resulted in such an increase of Chinese traffic that it was decided to make the use of the cars more attractive and inexpensive to this class by the addition readjustment along those lines.

## PUBLIC WORKS, WHARVES, DOCKS, BUILDINGS, ETC.

Irrigation in Siam.—A feature of the Bangkok Industrial Exhibition was the pavilion of the Royal Irrigation Department in which were exhibited a model of the big proposed moveable weir at Muang Charinat to cost Ticals 6,000,000 and a model of an aqueduct syphon which will carry the canal across the Pasak River at a cost of Ticals 982,000. According to the *Bangkok Times* the total cost of the irrigation and drainage scheme proposed by Mr. Van der Herde would cost, when completed, about Ticals 47,000,000, while the estimated cost of a scheme of reduced capacity for the Southern Menam Valley is Ticals 23,165,000.

Philippine Public Works.—The insular appropriations for this bureau for the year 1910 amount to approximately ₱2,300,000 and include for permanent roads and bridges ₱1,500,000; for specific inter-provincial roads ₱300,000; for drilling artesian wells and pumping plants where necessary, ₱300,000, for construction of new buildings and equipment for the Philippine Normal School, ₱200,000; for improvement and preservation of Magallanes Monument ₱5,000; for construction of contagious ward at San Lazaro, ₱40,000; for addition to the Ayuntamiento Building, ₱20,630.

Ryojun Drydock.—This dock now being constructed by the Japanese Government is 200 feet in length and will be utilized for the repair of destroyers, torpedo boats and small fighting craft.

Swatow Waterworks.—Messrs. Leigh & Orange of Hongkong have been appointed consulting engineers in connection with the installation of a system of water supply for Swatow which when completed will cost in the vicinity of $500,000. This does not include the water tower.

Philippine Insular Ice Plant Reconstruction.—A recommendation has been made by Major Shields, Director of the Bureau of Supply, to have the insular ice plant building reconstructed of reinforced cement throughout. When the plant was being built the only lumber available was Oregon pine and the dampness has had the effect of rotting the lumber wherever it has been used in the construction.

Breakwaters at Dairen.—The work on the East Breakwater is progressing favorably. It is 1,220 feet in length and will be completed this year. The North Breakwater 2,850 feet in length is also being built and is expected completed by the end of 1912.

Barracks at Kowloon.—Half the buildings with a capacity for housing a battalion of soldiers have been completed and are now occupied by Indian troops. When completed the group will cost approximately $150,000.

Dredging Rivers Near Tientsin and Peking.—Advices have been received that the merchants of Tientsin and Peking have recommended the raising of a fund of Tls. 1,000,000 to be used in improving water transportation facilities.

Tokyo Skyscraper.—The Mitsui firm is contemplating the construction of a six storey building in Tokyo near the Mitsui Bank building. The estimated cost is placed at 430,000 yen and it will be constructed on lines similar to plans used in the reconstruction of San Francisco in order to provide against destruction from earthquakes.

Public Buildings at Peking.—The program for construction at Peking for schools and universities includes the expenditure of about Tls 3,000,000.

Penang Public Incinerator.—A new Heenan Refuse Destructor having a capacity of 40 tons daily has been successfully installed at Penang.

Hongkong Water Supply.—The report under date of April 1 shows that there were 280,876,000 gallons in the hill and city reservoirs as against 280,754,000 on the corresponding date last year while there were 191,500,000 gallons in storage at Kowloon as compared with 129,367,000 last year.

Irrigation for Moroland.—The Provincial Board has petitioned the Insular Government for an appropriation of ₱75,000 for the repair and construction of dams throughout the Moro province. It is believed that the nucleus of a system could be established that would grow into a most important feature in the development of agriculture in that territory.

Irrigation in Hainan.—A correspondent of the *N. C. Daily News*, writing from Loklo, states that the town of Loklo in the southwestern section of Hainan owes its prosperity to an irrigation ditch that taps a river some five or six miles back in the hills dug some ten or twelve generations ago. It makes two crops possible and the area served requires 10,000 days' work in rice planting. The water from the irrigating canal is raised to the fields by means of water wheels, buckets swung between two people or by long spoon-like scoops hung from a tripod and operated by one workman. The higher the water, the easier the work of the Loklo farmer.

Tokyo-Yokohama Canal.—Several plans have been submitted for providing means of water transportation between these two points. One is to construct a canal from Kanagawa to Tokyo either by way of Haneda Point or by cutting through it; another scheme is to cut a canal from the Tsurima River to the mouth of the Sumida and proceeding by way of the beach at Oniori. Another scheme is to deepen the harbor of Tokyo and have the steamers enter there.

Tanjong Pagar Dock Board.—The report of the Board for the half year ended December 31st contains the information that work on the blockwork wall of the Main Wharf reconstruction at the western end has progressed during the half-year, the actual wall being completed in October, when the staging was removed, and filling operations at the rear for roads, railways, and godown sites put in hand.

The cylinder construction portion of the new wharf at this section has been proceeded with, though only slow progress has been made, which, however, it is hoped, will be improved on the arrival of heavier plant and appliances being provided. Twelve cylinders have been sunk and superstructure completed and the staging is in hand for a further 160 feet.

In September an additional length of 150 feet of old wharf eastward of the first portion was handed over to the Contractors.

The certificates for work done during the six months amount to £113,800, being an aggregate from commencement up to 31st December last of £249,299.

On the Keppel Harbor New Dock £38,500 have been spent, which is considered very satisfactory.

Bridge on Road to Tibet.—The importance of a bridge in the district of Chungtu on the road to Tibet has resulted in the letting of a contract to a German firm for the erection of an iron structure to cost Tls. 30,000.

The Hongkong University.—The cost of this building, according, to the terms of the contract with a Hongkong contractor, will amount to about $300,000.

New Method of Driving Piles.—The *Scientific American* describes a method of driving piles without the usual pile driver. For this purpose the piles, which may be from 20 to 36 feet long and from 10 to 12 inches in diameter, are pointed at one end, where also a screw thread is cut. These threads are from 3 to 3½ inches apart, and from 2 to 2½ deep. A pole or sweep lever is bound to the pile with a log chain. To drive the pile a horse is harnessed to the other end of the pole, and led round and round until the pile is driven to the required depth. It is found to be quite easy to drive large piles through clay or gravel in this way. They may be also driven through ice. By reversing the direction of the horse's motion a pile can also be removed.

Philippine Port Improvement.—The legislature has appropriated the sum of ₱700,000 to be utilized by the Bureau of Navigation for the improvement of ports, dredging of navigable rivers and canals, opening of new canals, construction of breakwaters, sea walls, dams and containing walls for the prevention of inundations, and the taking of soundings and preliminary surveys for such purposes, including the continuation of the construction of the sea wall in the port of Cebu, and for the improvement of the port of Iloilo.

## SHIPBUILDING, MERCHANT MARINE, FISHERIES

The Shanghai Tug and Lighter Co., Ltd.—The directors' report shows a credit balance of working account transferred to profit and loss of Tls. 122,314.44 as against Tls. 112,001.09 for the previous year. A resolution was also adopted at the regular meeting reducing the capital of this company from Tls. 1,500,000, divided into 10,000 shares of Tls. 50 each and 20,000 ordinary shares of Tls. 50 each, to a capital of Tls. 1,000,000 divided into 10,000 preference shares of Tls. 50 each and 20,000 ordinary shares at Tls. 25 each.

The Compania Maritima —At its last annual meeting this company reduced its capital from ₱1,200,000 to ₱510,000.

Motor House Boats of the Asiatic Petroleum Co.—Two vessels, one for Saigon for duty on the Mekong River, and the other for inspection work at Hankow, were recently built for the company by a Chinese boat builder at Shanghai. One of them is 61 feet over all; beam 12.5 feet and draught 2.5 feet and is driven by two Kelvin 15-20 h. p. kerosene motors making eight knots. The dimensions of the second are: length overall 42 feet 3 in., beam 8 ft. 6 in. and draught 22 in. She is driven by one Kelvin 15-20 h. p. kerosene motor and makes about 6.5 knots.

Canadian Pacific Earnings.—Including the Trans-Pacific and Trans-Atlantic Steamship Services the gross earnings for the six months ended December 31st amounted to $49,925,511; expenditure, $29,855,635, leaving a net profit on working of $20,069,876, an increase of $6,028,689 over previous term.

The Bangkok Dock Company Workings.—The total number of vessels docked for 1909 was 67 against 64 for the previous year, and the tonnage of vessels amounted to 31,128 against 30,909 for 1908.

The North German Lloyd S. S. Company.—The annual report of the North German Lloyd Steamship Co. shows gross profits of 32,899,000 marks ($8,224,750), as compared with 9,218,000 marks ($2,304,500) for the previous year, but no dividend. A total of 20,033,000 marks was written off against vessels and other property, as compared with 14,027,000 marks of the previous year.

Japanese Far Eastern Services.—It is announced that two steamers of the Nippon Yusen Kaisha engaged in the Saghalien service will receive a subsidy of yen 50,000 while two vessels of the Osaka Shosen Kaisha on the Vladivostok run will receive yen 250,000.

U. S. A. Transport Warren.—The Transport Warren, which has been undergoing repairs at The Shanghai Dock and Engineering Company, proceeded from Shanghai last month to Haiphong where she loaded with cement for the Quartermaster's department, Manila.

The New White Star Liners.—It is announced that the two 45,000 ton vessels being built by Messrs. Harland & Wolff will be launched this fall.

Tsuruga-Vladivostock Service.—A new timetable has been prepared in connection with the trans-Siberian Railway and the steamer service from Vladivostock and Tsuruga. Connections will be made by the steamers on Saturdays and Thursdays.

Mitsu Bishi Builds Monster Destroyer.—The new destroyer Yamakaze, a sister ship to the Umikaze now being built at Maizuru, will have a displacement of 1,150 tons, be equipped with 25,000 h. p. and have a speed of 33 knots. It is being built at the Mitsu Bishi Dockyards.

Disappearance of the American Merchant Flag.—Consul Du Bois of Singapore in reviewing the decadence of the American Merchant Marine in Far Eastern waters points to the fact that four years ago the American ship Acme called at Singapore in ballast for repairs; three years ago the American ship Ivy called with a cargo of salt and cleared with lumber; two years ago the foreign built Hanamet arrived, and last year the barkentine Jos. L. Eviston called in ballast and was sold. In 1856 there were 1,047 ships including native craft entered at Singapore, of which 667 were British, 182 Dutch and 45 good sized American Merchantmen. The total number of vessels entered last year in 1908 was 29,234 with a tonnage of 15,507,102 of which only one small craft of 662 tons was under the American flag.

Asiatic Russia Fisheries.—The catch in the Arctic Ocean along the Siberian coast amounts to 40,860,000 pounds, worth $1,815,225. The yield of the Amur district reaches 80,280,000 pounds, valued at $1,442,000. These figures do not include the several million pounds of fish consumed by the local population and their dogs.

In the Aral Sea species of sturgeon and carp are caught, the yield being nearly 25,920,000 pounds worth about $515,000. The Akmolinsk, Semipalatinsk, and Semiretchensk districts yield about 9,000,000 pounds, valued at $226,600.

The total yearly catch of fish marketed in Asiatic Russia aggregates about 156,060,000 pounds, worth nearly $3,998,825. The catch in Asiatic Russia increases in proportion with the population growth and development of fishing in Siberia, following the construction of the Siberian railway, which opened up new markets in European Russia for the valuable Siberian fish. A decrease in the yield is only noticed in Lake Baikal, where the catch of salmon is diminishing, and in the Aral Sea, where the catch of sturgeon is falling off, the latter due to the shallowing of the mouth of the Amu-Daria River.

The New Haiphong-Hongkong Service.—It is understood that the East Asiatic Company proposes putting on a steamer of 1,300 tons with a speed of 13 knots at the outset. The new contract will be signed June 1st.

Shipside Delivery of Bulk Cargo at Manila.—The Collector of Customs has issued an order providing for ship side deliveries to be given only to large shipments consigned to the U. S. Army or Navy and to large consignments of cargo so stowed as to not interfere with the rapid discharge of the vessel. The following is held to be bulk cargo: coal, rice, lumber, cement, fresh fruits and vegetables, fresh meat in cold storage, flour or grain in sacks, hay and straw in bales, heavy machinery, boilers, railway iron, structural iron and steel, lubricating oil in barrels, and shall constitute an amount equal to one casco or lighter load.

## MINES, MINERALS AND THE METAL TRADE

Iron and Steel for Philippine Sugar States.—The Mindoro Sugar Development Company has received over 800 tons of material for the installation of a system of transportation on its big estate in Mindoro for carrying the sugar to the docks and cane to the mills.

Burma Mines, Ltd.—The report for March shows a saving of 975 tons of lead and 4,795 ounces of silver.

Modern Shoe Making Machinery.—The Hike Shoe Company has installed in its repair department, Manila, a new machine that will do the work of 30 men. It will turn out 300 pairs of new shoes daily and put new soles on 500 pairs of old shoes in that time. It cost ₱10,000.

Royal Johore Tin Mining Company.—The report for the year shows an output of 1,307 pikuls.

F. M. S. Tin Exports.—The total export of tin for March was 48,718 pikuls as against 61,100 pikuls for the corresponding month 1909. The total export to date for 1910 amounts to 178,870 pikuls against 181,064 pikuls, 1909.

Oil in Siam.—Kerosene oil has been discovered near Khota Bharu and a prospecting license has been applied for.

Gold Near Nikko.—A permit for prospecting mineral land near Nikko has been granted as a result of the discovery of rich ore containing gold and silver.

The Raub Gold Mine.—This company has declared a dividend of 1s. 2d. which will be applied as a payment of shares.

The Iwaki Coal Mines.—As a result of the decision of the Japanese Railway Board to use Kyushu and Hokkiado coal on its lines instead of the coal from the Iwaki coal fields quite a panic has resulted among the collieries. These fields heretofore produced about 450,000 tons annually. One colliery has closed down and others are reducing their working forces.

Coal Prospect in Oshu.—A company has been formed by Japanese capitalists to develop a prospect of coal located at Mogami in a district where heretofore they had to import the product from outside.

The Kinta Tin Mines.—This company has declared a further dividend of 5%.

Opening of Ulu Kanching Tin Mine.—The *Malay Mail* announces the opening of the new hydraulic plant of Messrs. W. Crompton and Foo Bow Teck at Ulu Kanching situated about 12 miles from Kuala Lumpur on May 4th. The concession comprises 40 acres and the fall of water is 180 feet. The incident of the day was the successful starting of the monitor. Another monitor will be installed at an early date.

THE CHINESE ENGINEERING & MINING COMPANY, LTD.—The directors have announced an interim dividend of 1s. 6d. a share which is equal to 15% per annum.

LABUAN COLLIERIES.—The present output of these mines is 10,000 tons a month as a result of the increase made in plant and equipment during 1909. Two electrically driven turbine pumps were installed, each having a capacity of 700 gallons per minute and a steam driven pump with a capacity of 600 gallons per minute. Large water, steam, and compressed air pipes have been installed in the inclines. One 750 h. p. steam turbine and generator to supply the electrical power for pumping, lighting, fans, etc., is in operation. Three new Lancashire boilers are installed. The mine workers have been accommodated by the construction of 250 houses and the railway equipment has been increased by 100 new cars and a locomotive. Provision has also been made for the facilitating of the transfer of the coal to boats alongside direct from the cars.

DEEP MINING IN PERAK.—The *Perak Pioneer* states that Mr. C. E. Peterson has purchased a No. 1 Keystone Driller from the Keystone Driller Company of Beaver Falls, Pa., to be used in prospecting a concession near Kamunting. This machine bores to a depth of 250 feet and as the *Pioneer* remarks is the first time any deep boring has been undertaken in that district. If the first tests meet with success, a larger machine capable of deeper bores will be ordered.

KOREAN MINING ACTIVITY.—The Chief Expert of the Mining Bureau states that since the promulgation of the mining law last year many applications for concessions were received from Japanese, but recently many Koreans, among them members of the nobility, had made applications for permission to work alluvial deposits of gold.

THE MURORAN STEEL FOUNDRY.—This joint project in which British and Japanese capitalists are interested and which has for its object the manufacture of railway supplies together with ordnance for the army and navy is expected to open in August this year. The plans include two machine shops, a pattern shop, a foundry, forging shop, tempering and shrinking shop, a blacksmith and repair shop, a laboratory and test room and offices. Manganese ore is said to be obtainable near the foundry and experiments have been conducted with a view to utilizing iron sand deposited along the shores of Volcano Bay.

THE MALAY PROSPECTING SYNDICATE.—This company has been formed with a capital of £10,000 for the purpose of engaging in the business of tin and general miners, prospectors, concessionaires, etc.

THE PAHANG CONSOLIDATED COMPANY, LTD.—The report by Mr. William Frecheville on these mines, with recommendation to raise the sum of £70,000 to be added to working capital and that the work of exploration should be pressed rapidly, boldly and with judgment, was recently submitted to the board of directors. The following are excerpts from his report:

"The mines are well equipped with a 50-stamp concentrating mill, with a great variety of plant and machinery necessary for carrying on the business of the company, with suitable houses for staff and labour, with a narrow-gauge railway, 12 miles long, to the head of navigation on the river, and a stern-wheel steamer for service on the 25 miles of river separating the head of navigation from the port of Quantan. With this fine equipment, which has cost the company upwards of £200,000 and several years of effort to bring into being, they unfortunately do not find themselves in the position of being able to make profits, owing to the lowness of grade of the ore supplied by the two mines now worked, Willink's and Bell's.

"As regards the amount of further working capital which should be raised, I have gone carefully into figures and made a number of estimates, and have come to the conclusion that the sum of £70,000 is a suitable one under the circumstances. I have in my mind that £45,000 should be set aside for mining work and £25,000 for contingencies and possible monthly losses on working account. Of the remaining £15,000, I recommend that £6,000 be expended in endeavoring to find a continuation of Bell's ore bodies, and in sinking Nicholson's Shaft another 100 ft., to have another look at Willink's lode. If funds permit at any time, either through the abandonment of Willink's, or from profits earned in the mill, then I recommend that Jeram Batang Mine be taken in hand and reopened. The cost of doing this would amount to about £15,000.

"A great variety of old plant exists on the ground, which can be utilised for equipment, but if favourable results are obtained in carrying out the programme of work as soon as success is apparent, I recommend that an electrical power plant be installed at a cost of about £20,000. Such a power plant, using fuel oil in Diesel engines (such as are now used in the mill), would get over the firewood difficulty, and would probably pay for itself by the economies effected, in three or four years.

"The additional machinery for the mill, consisting of 4 pneumatic stamps and a 200-h. p. Diesel engine, are on the ground, but not erected. They are expected to bring the crushing capacity on mixed ores up to from 10,000 to 12,000 tons per month. At present, there is not sufficient ore available, or in prospect, to justify their erection, but should the position change in this respect, these additions could be erected in about four months at a cost of about £5,000."

## FINANCIAL, COMMERCIAL AND MISCELLANEOUS

COMPANY TO MANUFACTURE PAPER FROM BAMBOO.—A company to be known as the Tonkin Pulp and Paper Co., Ltd., with a capital of $660,000 (Haiphong Cur)., has been organized by Hongkong and Indo-China capitalists for the purpose of establishing a factory and manufacturing paper from bamboo pulp. A concession of forty-three square miles of territory in Tonkin has been acquired and it is understood is capable of furnishing 50,000 tons annually.

YOKOHAMA SPECIE BANK IN MANCHURIA.—This institution is prepared to advance loans to traders secured by real estate at a low rate of interest at its different branches in Manchuria. Yen 3,000,000 has been made available for this purpose.

THE RIO GRANDE RUBBER ESTATES, LTD.—This company has been organized in Glasgow, Scotland, with a capital of £70,000, for the purpose of collecting the wild rubber and cultivating para rubber in Mindanao. The company has asked for a concession of [illegible] acres in the Rio Grande Valley, Mindanao, Philippine Islands, covering a period of 20 years C. A. Littler of Manila is the principal promoter of the company. An annual output of wild rubber for the first seven years is estimated at 120,000 pounds with a net profit of £12,000 during the time the para rubber is developing.

RICE CULTIVATION IN INDO-CHINA.—An association has been formed for the purpose of promoting the use of farming machinery in rice cultivation. There are now approximately 1,200,000 acres under cultivation and about 2,000,000 hectares still untouched. It is proposed to send a delegation to Louisiana and Texas to study the modern methods in vogue there with a view to applying them to the problem in Indo-China.

NEW RUBBER COMPANIES.—The organization of new companies continue to interest capital in the rubber growing industry. Among the many recently noted are the Laras (Sumatra) Rubber Estates, capital £90,000, £1 shares; Chembong Pedas Rubber Co., capital $230,000, shares $5 each; Victoria (Malaya) Rubber Estates, capital £120,000, shares 2s. each; Dajan (Java) Rubber Estates, capital £55,000, shares 2s. each; Anglo-Bolivian Rubber Estates, capital not given; Panni Lands & Rubber Estates (Gold Coast), capital £80,900, shares 2s. each; Malayan Rubber, Loan and Agency, capital 600,000, shares £1 each; Alluta Rubber and Produce Co. (Ceylon), United Malaysian Rubber Co., Ltd., Capital, £2,000,000 (British and American capital) £400,000 offered for sale; the Quayuleb Rubber Co. (Mexico), capital £400,000, shares £1 each; Way-Halim (Sumatra) Rubber, capital £120,000, shares 2s. each; Badek Rubber Estate (Java), capital £120,000, shares £1 each.

SUGAR DEVELOPMENT IN THE PHILIPPINES.—Honolulu capitalists have purchased 20,000 acres of sugar lands near Calamba, Laguna, and propose an investment in all of about ₱3,000,000 in developing these lands. The machinery alone, it is estimated, will cost in the vicinity of ₱600,000. Mr. A. F. Thayer of Honolulu has been acting as representative of the Honolulu people.

JAPAN'S COCOON CROP.—The total for the spring, summer and autumn of 1909 amounted to 3,625,000 koku (koku=4.96 bushels), an increase of 95,069 koku compared with the corresponding periods the previous year.

STRAITS SETTLEMENTS' FOREST RESERVE.—The legal reservation of forests was authorized in 1909 by the Forest Ordinance and the Government Gazette has announced that it is proposed to reserve in all about 88,604 acres, of which 10,800 acres are in Penang, 3,900 in Wellesley, 23,945 in The Dindings, and 40,900 in Malacca.

THE RUSSO-ASIATIC BANK.—The amalgamation of the Russo-Chinese Bank and the Banque du Nord under the name of the Banque Russo-Asiatique has been consummated. Banque du Nord shares were exchanged for stock in the new institution at the rate of five of the former for seven of the latter and three of the new shares will be given for four of the Russo-Chinese shares. The new bank will increase its total capital to Roubles 35,000,000 by the issue of 24,334 new shares.

ANTUNG BANKING INSTITUTION.—Chinese merchants have organized with a capital of yen 1,000,000 for the purpose of establishing a banking and forwarding business at Antung.

HUGE RUBBER DIVIDEND.—The Selangor Rubber Company, recently announced an interim dividend of 3s. 3d. making 5s. 9d. for the year 1909. This is equal to 275 per cent. per annum on capital and is probably the highest dividend declared. The Consolidated Malay made a total dividend of 80% and the Linggi 165% for the year. In the six years the Selangor company made a total of 471.5% on a capital of £30,000, the smallest dividend during that time being 20%. The Linggi made a total of 264% during five years with the lowest annual dividend 4% on a capital of £98,324.

THE CHEFOO WEISHIEN LINE.—The prospect for the construction of this proposed line seems brighter since the Viceroy at Tientsin has been advised by the Grand Council that it is the purpose of the Government to abandon the construction of the proposed line from Kaomi to Yichou in favor of a line from Yichou to Weihsien to connect with the Chefoo-Weihsien line and with prospect of early construction of the latter along the plans originally submitted.

SOUTH MANCHURIA RAILWAY LOAN.—Baron Goto, Minister of State for Communications explained to the budget committee that the new loan for yen 40,000,000 would be utilized the following improvements:

| | *Yen.* |
|---|---|
| On the main line | 17,200,000 |
| On the Mukden-Antung line | 3,200,000 |
| On electric work | 1,850,000 |
| On gas work | 350,000 |
| On harbors | 9,000,000 |
| Mines | 200,000 |
| Hotels | 900,000 |
| Various enterprises in the railway zones | 7,000,000 |

Limit Shipments of Low Grade Philippine Cigars.—The Manila Tobacco Association made a recommendation to the Collector of Internal Revenue to have low grade product limited in export and the latter issued an order announcing three groups, standard first, standard second (medium), and standard third or low grade, and providing that shipments to the United States should not contain less than 35% of the first group, not over 65% of the second group, and not over 15% of the third group. This action was taken to prevent an attempt on the part of importers in the United States flooding the country with cheap cigars to the detriment of the reputation of the Philippine industry.

Modern Rope Factory in Manila.—The Johnson-Pickett Company has installed ₱100,000 worth of machinery in their new factory located on Muelle de la Reina near the Custom House. The machines are the manufacture of the Watson Machine Company, Paterson, N. J., and with the equipment installed this factory can now turn out rope from one-half inch to eight inches in diameter with a length of 3,000 feet for the small size and 200 fathoms for the largest. The daily capacity is eight tons. The business of this company is growing rapidly and especially their export trade.

A Floating Hub Automobile Wheel.—A new invention designed as a substitute for the expensive pneumatic tire is to the credit of the genius of H. O. Peck of Portland, Oregon, and will be known as the Peck Floating Hub Automobile Wheel. Two large manufacturers have secured contracts from the inventor for the exclusive manufacture and sale of the invention covering the United States, Canada and Mexico, and the other all foreign countries. The wheel has been tested over about 7,000 miles in the city of Portland and country thereabouts very successfully. The tire used is of hard rubber and the invention gives the car all the grace and ease of motion of the pneumatic tire at a minimum of expense. It will be put on the market at an early date.

Montol Philippine Hardwood.—Messrs. Derham Bros., one of the leading lumbering firms of the Philippines, are making a specialty of supplying this wood for high grade construction and finishing timber. The Philippine Railway Company has been using this class of timber for telegraph poles and finds that after four years there is not the least defect noticeable.

Big Offer to Purchase Germinal Cigar Factory.—A group of capitalists in the United States recently made an offer of ₱3,000,000, or an amount equal to double the capitalization of the company. The offer was refused, but so desirable was the investment that the Americans offered to put in ₱1,000,000 to increase the stock to ₱2,500,000. The latter offer is now under advisement.

Philippine Treasury Transactions for 1909.—The annual report of the Insular Auditor shows that the total transactions during the year involved ₱506,868,201 or an average of ₱1,689,560 daily The exchange currency transactions amounted to ₱151,919,653.

Changchow Sugar Refinery.—A report from Changchow near Amoy is to the effect that a company with a capital of Tls. 10,000,000 has been formed with the purpose of installing a large sugar refinery. There is a report to the effect that the Viceroy has promised sufficient protection so that within five years no competition may be feared. Hongkong and Formosan interests interpret this as a menace to local sugar industry.

Philippine Sugar Crop.—The estimates for this year place the output at about 96,000 tons, about 3,000 tons short of previous year. The price prevailing has been almost double that of 1908.

Manila's Population.—The total population, according to the Bureau of Health census, is 234,409. Of this number there are Filipinos, 211,959, Chinese 14,093, the former showing a gain of 16,600 and the latter a falling off of 3,934. The European population excluding Spaniards numbered 644 a loss of 333. There were 2,364 Spanish residents which is 639 less than in 1907 when the last census was taken. The American population has dropped from 5,199 to 4,174, a decrease of 1,025.

## LONDON, ENGLAND, METAL MARKET

The following are Friday's, April 8, prices of metals:—

| COPPER | £ s. d. | £ s. d |
|---|---|---|
| *Tough cake and Ingot | 61 10 0 | 62 0 0 |
| *Best Selected | 61 10 0 | 62 0 0 |
| *Electrolytic | 63 0 0 | 63 10 0 |
| *Sheets and sheathing | 71 0 0 | — |
| *Flat bottoms | 73 0 0 | — |
| STANDARD †Cash | 57 11 3 | — |
| STANDARD †Three Months | 58 12 6 | — |
| *Copper tubes, seamless per lb. | 0 0 8⅝ | — |
| *Lake | 65 0 0 | 65 10 0 |

* Less 3⅛ per cent. † Net.

ALLOYS.

| | | |
|---|---|---|
| Brass: Wire | 0 0 6¾ | — |
| ,, Tubes (solid drawn) | 0 0 7 | — |
| ,, Sheets | 0 0 6⅞ | — |

TIN.

| | | |
|---|---|---|
| English ingots, f. o. b. | 149 10 0 | 150 10 0 |
| ,, bars | 150 10 0 | 151 10 0 |
| ,, refined | 151 10 0 | 152 10 0 |
| Straits... Cash | 150 10 0 | — |
| Straits... Three months | 152 10 0 | — |
| Australian spot | — | — |
| Banka (in Holland) Cash | 151 12 6 | — |
| Banka (in Holland) Three months | 152 5 0 | — |

LEAD.

| | | |
|---|---|---|
| Spanish or soft foreign | 12 12 6 | 12 13 9 |
| English pig, common | 12 15 0 | 13 0 0 |
| ,, L. B. | 13 10 0 | — |
| ,, sheet and bar lead | 14 12 6 | — |
| ,, pipe | 15 2 6 | — |
| ,, red | 16 0 0 | — |
| ,, white | 18 0 0 | — |
| ,, patent shot | 16 0 0 | — |

SPELTER.

| | | |
|---|---|---|
| Silesian ordinary brands | 22 17 6 | 23 0 0 |
| ,, special brands. | 23 7 6 | 23 10 0 |
| English Swansea | 24 0 0 | 24 10 0 |
| Sheet zinc | 26 0 0 | f.o.b.Stettin, |

ANTIMONY.

| | | |
|---|---|---|
| Antimony | 28 10 0 | 30 10 0 |
| ,, Crude | 13 10 0 | 14 0 0 |
| ,, Ore (basis 50%) | 8 0 0 | 10 0 0 |

QUICKSILVER.

| | | |
|---|---|---|
| Flasks, 75 lbs. warrants | 9 5 0 | — |

| ALUMINIUM. | Per ton. | Per ton. |
|---|---|---|
| 98-99 per cent. | 70 0 0 | 75 0 0 |

| NICKEL. | Per ton. | Per ton. |
|---|---|---|
| 98-99 per cent. guaranteed | 167 10 0 | 171 0 0 |

PLATINUM.

Per oz. Troy, 115s.; nominal and subject to negotiation.

## HEMP STATISTICS, 30th APRIL, 1910.

*(Courtesy of* C. S. Nicholson, *Secretary, Manila Chamber of Commerce.)*

EXPORT OF HEMP, APRIL, 1910.

| Date | Vessel | London | L'pool | Atlantic U.S. | Pacific East & California | Continent. | Australia | Other Pts. | Total Bales |
|---|---|---|---|---|---|---|---|---|---|
| 1910 | | | | | | | | | |
| April 1 | Brt. Forward | 51,802 | 22,887 | 115,355 | 33,520 | 13,044 | 4,798 | 9,877 | 251,193 |
| " 9 | Antilochus | 21,078 | 9,300 | | | 2,850 | | | 33,228 |
| " 19 | I. de Panay | 500 | | | | 739 | | | 1,239 |
| " 29 | Clan McDougall Cebu | 6,958 | 1,020 | | | 200 | | | 8,178 |
| " " | Dongola | 20,528 | 1,250 | | | | | | 28,778 |
| | Indrapura....Cebu | | | 11,600 | | 1,280 | | | 11,600 |
| | Verona........Cebu | | | 8,000 | | | | | 8,000 |
| " 23 | Hudson | | | 6,225 | | | | | 6,325 |
| " 6 | Mongolia | | | | 2,000 | | | 66 | 2,066 |
| " 16 | Keemun | | | | 250 | | | | 250 |
| " 28 | River Clyde | | | | 5 499 | | | | 5,499 |
| " 8 | Loongsang | | | | | 150 | | 160 | 310 |
| " 9 | Seattle Maru | | | | | | | 909 | 909 |
| " " | Nikko Maru | | | | | | | 110 | 110 |
| " " | Rubi | | | | | 13 | | 103 | 116 |
| " 12 | Taming | | | | | 780 | | 35 | 815 |
| " 15 | Yuengsang | | | | | 40 | | 300 | 340 |
| " | Kaifong ......Cebu | | | | | 100 | | | 100 |
| " 19 | Aldenham | | | | | | | 630 | 630 |
| " 18 | Yawata Maru | | | | | | 1439 | | 1,439 |
| " 23 | Rubi | | | | | 7 | | 1160 | 1,167 |
| " 22 | Loongsang | | | | | | | 137 | 137 |
| " " | Taiyuan | | | | | | 200 | | 200 |
| " 26 | H. Ibsen | | | | | | | 100 | 100 |
| " 29 | Yuengsang | | | | | | | 300 | 300 |
| | Sungkiang ...Cebu | | | | | 100 | | | 100 |
| " 19 | Tean | | | | | 550 | | | 550 |
| " " | Yuengsang | | | | | 61 | | 200 | 216 |
| " " | Coblenz | | | | | | | 69 | 69 |
| " 2 | Zafiro | | | | | | | 250 | 250 |
| " 3 | Indrawadi | | | 6,816 | | | | | 6816 |
| " 26 | Taming | | | | | | | 50 | 50 |
| " 29 | Prinz Waldemar | | | | | 200 | | | 200 |
| | Carried forward | 100,866 | 41,457 | 148,096 | 41,269 | 18,834 | 6,437 | 14,366 | 371,325 |

# FAR EASTERN STOCKS AND QUOTATIONS

*Courtesy of Messrs. Kadoorie & Co., Hongkong, April 29, 1909.*

| STOCK. | WHEN ESTABLISHED | CAPITAL | NO. OF SHARES | VALUE | PAID UP | RESERVE | AT WORKING ACCOUNT | DATE | LAST DIVIDEND. | Approximate Yield per cent per annum at Present Quotation | CLOSING QUOTATIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **BANKS.** | | | | | | | | | | | |
| Hongkong & Shanghai Banking Corporation | 1865 | $15,000,000 | 120,000 | $125 | $125 | g £1,500,000<br>s $15,500,000<br>i $250,000 | $2,028,988 | 31-12-09 | £2. 5/- for half year ending 31-12-09, @ ex 1/9½=$25.11 | 4 | 975 sellers<br>£91 10/- |
| National Bank of China, Ld. | 1891 | £699,475 | 10) 99,925 | £7 | £6 | c £4,099<br>$400,000 | $34,167 | 31-12-09 | $2 (London 3/6) for 1903 | — | $76 buyers |
| **MARINE INSURANCES.** | | | | | | | | | | | |
| Canton Insurance Office Ld. | 1881 | $2,500,000 | 10,000 | $250 | $50 | $1,560,000<br>j $254,583<br>u $302,799 | Nil. | 31-12-08 | $10 for 1908 | 7 | $170 buyers |
| North China Insurance Co., Ld. | 1903 | £150,000 | 10,000 | £15 | £5 | g £125,000<br>s Tls. 225,000<br>u Tls. 335,253<br>f Tls. 146,586 | Tls. 207,572 | 30-6-09 | Final of 7/6 making 15/- for 1908. | ... | Tls. 115 sellers |
| Union Ins. Society of Canton, Ld. | 1867 | $3,100,000 | 12,400 | $250 | $100 | s $3,000,000<br>g £90,000<br>f $287,984<br>j £1,449,735<br>u $713,985 | $287,984 | 31-12-09 | Final of $20 per share, making in all $50 per share for 1908, and an int. div. of $30 per share for 1909 | 5½ | $850 sal. & sel. ex div. |
| Yangtsze Ins. Association, Ld. | 1889 | $1,200,000 | 12,000 | $100 | $60 | $1,000,000<br>j $294,405<br>$199,234 | $707,637 | 31-12-08 | $12 and bonus $3 for 1907 | 7 | $225 |
| **FIRE INSURANCES.** | | | | | | | | | | | |
| China Fire Ins. Co., Ld. | 1870 | $2,000,000 | 20,000 | $100 | $20 | $1,000,000<br>x $550,348<br>f $61,168 | $438,406 | 31-12-09 | $6 and bonus $2 for 1908 | 7½ | $112 buyers |
| Hongkong Fire Ins. Co., Ld. | 1868 | $2,000,000 | 8,000 | $250 | $50 | $1,460,000 | $426,218 | 31-12-09 | $27 for 1908 | 8% | $342½ sales |
| **SHIPPING.** | | | | | | | | | | | |
| China & Manila Steamship Co., Ld. | 1882 | $750,000 | 1) 30,000 | $25 | $25 | i $57,734 | Dr. $3,777 | 31-12-09 | $4% for 1906 | .... | $8½ sellers |
| Douglas Steamship Co., Ld. | 1883 | $1,000,000 | 20,000 | $50 | $50 | $230,000<br>i $100,589 | Nil. | 30-6-09 | $2½ for year ending 30-6-1908 | .... | $34 sales |
| Hongkong, Canton & Macao Steamboat Co., Ld. | 1865 | $1,200,000 | 80,000 | $15 | $15 | e $250,000<br>d. i. $627,500<br>f $103,545<br>$ 19,106 | $20,766 | 31-12-09 | Final of $1½ for 1909 | 7½ | $30 sellers |
| Indo-China Steam Navigation Co., Ld. (Preferred)<br>Do. Do. (Deferred) | 1882 m | £600,000 | 2) 60,000<br>2) 60,000 | £5 | £5 | i £148,891 | £15,162 | 31-12-08 | 6/- for 1907 on pref. share only at ex. 1/9 11/16, $3.154 | .... | $70 sales & sellers |
| "Shell" Transport & Trading Co., Ld. | 1898 | £ 2,000,000 | 2,000,000 | £1 | £1 | £720,000<br>i £100,000 | £192,994 | 31-12-08 | 3rd interim of 2/- per share (coupon No. 12) making in all 4/- for 1908, and interim of 1/- for account 1909 | 5% | 94/- |
| "Star" Ferry Co., Ld. | 1898<br>1900 | $200,000 | 10,000<br>10,000 | $10<br>$10 | $10<br>$5 | $65,000<br>i $48,980 | $3,121 | 30-4-09 | $1.00<br>50 cts. for year ended 30-4-09 | 4<br>3½ | $26 sellers<br>$14½ sellers |
| **REFINERIES.** | | | | | | | | | | | |
| China Sugar Refining Co., Ld. | 1878 | $2,000,000 | 20,000 | $100 | $100 | e $520,000<br>r $83,620 | Dr. $8,090 | 31-12-09 | $10 per share for 1909 | 3½ | $177 buyers |
| Luzon Sugar Refining Co., Ld. | 1882 | $700,000 | 7,000 | $100 | $100 | none | Dr. $101,851 | 31-12-09 | $3 for 1897 | — | $28 sellers |
| Perak Sugar Cultivation Co., Ld. | — | Tls. 350,000 | 7,000 | Tls. 50 | Tls. 50 | Tls. 100,000 | Tls. 6,302 | 31-8-09 | Tls. 10 for year ending 31-8-09 | — | Tls. 900 sellers |
| **MINING.** | | | | | | | | | | | |
| Chinese Engineering & Mining Co., Ld. | 1901 | £1,000,000 | 1,000,000 | £1 | £1 | d £215,000<br>h £84,390 | £1,435 | 28-2-09 | Final of 1/6 making 3/- for 09 | 7 | Tls. 18 sales |
| Headwaters Mining Co. | 1908 | ₱600,000 | 28) 60,000 | ₱10 | ₱10 | | | | First year | | ₱10 buyers |
| Raub Australian Gold Mining Co., Ld | 1892 | £200,000 | 150,000<br>50,000 | £1<br>£1 | 18-10<br>£1 | £4,873 | Dr. .... | | 1/2 per share, 13th div | — | $8½ sellers |
| **DOCKS, WHARVES AND GODOWNS.** | | | | | | | | | | | |
| Fenwick (Geo.), & Co., Ld. | 1889 | $450,000 | s 18,000 | $25 | $25 | $25,275 | Dr $8,460 | 31-12-09 | $1½ for year ending 31-12-06 | .... | $10 |
| Hongkong & Kowloon Wharf & Godown Co., Ld. | 1886 | $3,000,000 | 60,000 | $50 | $50 | $550,000<br>i $31,993<br>s $40,000 | $264,847 | 31-12-09 | $2½ for 1909 | 5 | $59 sellers |
| Hongkong & Whampoa Dock Co., Ld. | 1866 | $2,500,000 | 50,000 | $50 | $50 | i $88,412<br>v $221,000 | $132,765 | 31-12-09 | Interim of $1½ for account 1909 | .. | $62 sellers |
| Shanghai Dock & Engin'g Co., Ld. | 1906 | Tls. 5,570,000 | 13) 55,700 | Tls. 100 | Tls. 100 | Tls. 1,000,000 | Tls. 6,261 | 30-4-09 | Interim of Tls. 2½ for account 1910 | 6½ | Tls. 76 buyers |
| Shanghai & Hongkew Wharf Co., Ld. | 1902 | Tls. 3,600,000 | 36,000 | Tls. 100 | Tls. 100 | b Tls. 697,257<br>r Tls. 70,000<br>e Tls. 125,000 | Tls. 9,222 | 31-12-09 | Final of Tls. 4 for 1909 | 7 | Tls. 123 sellers |
| **LANDS, HOTELS AND BUILDINGS.** | | | | | | | | | | | |
| Anglo-French Land Investment Co., Ld. | 1906 | Tls. 2,500,000 | 3) 25,000 | Tls. 100 | Tls. 100 | Tls. 35,000 | Tls. 4,314 | 29-2-09 | Tls. 6 for year ending 29-2-09 | 5½ | Tls. 104 |
| Central Stores, Ld. | — | $751,845 | 16) 50,123 | $15 | $15 | n. $1,000 | $24,641 | 31-12-08 | $1.20 on old & 60 cts. on first new issue | — | $16 buyers |
| Hongkong Hotel Co., Ld. | 1866 | $600,000<br>$400,000 | 12,000<br>8,000 | $50<br>$50 | $50<br>$25 | $648,975<br>r $10,000 | $1,277 | 31-12-09 | $2.60 on old shares, $1.30 on new shares, for ½ year ending 31-12-10 | — | $107½ ex div.<br>$83½ ex div. new |
| Hongkong Land Investment & Agency Co., Ld. | 1889 | $5,000,000 | 50,000 | $100 | $100 | e $250,000 | $27,971 | 31-12-09 | Final of $3½ making $7 for year ending 31-12-1909 | 6½ | $102 buyers |
| Humphreys' Estate & Finance Co., Ld. | 1887 | $1,500,000 | 150,000 | $10 | $10 | i $226,945<br>20) $25,856 | 5,471 | 31-12-09 | 45 cents for 1909 | 7½ | $8½ buyers ex div |
| Kowloon Land & Bldg. Co., Ld. | 1889 | $300,000 | 6,000 | $50 | $30 | none | $269 | 31-12-09 | $2½ for 1909 | 5 | $29 buyers |
| Shanghai Land Investment Co., Ld. | 1888 | Tls. 3,900,000 | 78,000 | Tls. 50 | Tls. 50 | Tls. 1,523,045<br>e Tls. 300,000 | Tls. 63,969 | 31-12-09 | Final of 6% bonus Tls. 1 for 1909 | 6½ | Tls. 111 |
| West Point Bldg. Co., Ld. | 1889 | $625,000 | 12,500 | $50 | $50 | none | $1,958 | 31-10-09 | Final of $1.80 for 1909 making in all 3.80 per share for 09 | 8½ | $40 sellers |
| **COTTON MILLS.** | | | | | | | | | | | |
| Ewo Cotton Spinning & Weaving Co., Ld. | 1895 | Tls. 1,000,000 | 5) 20,000 | Tls. 50 | Tls. 50 | Tls. 250,000<br>Tls. 40,098 | Tls. 10,991 | 31-10-09 | Tls. 11 for year ended 31-10-09 | 8½ | Tls. 137½ sellers |
| Hongkong Cotton Spinning, Weaving & Dyeing Co., Ld. | 1901 | $1,250,000 | 125,000 | $10 | $10 | e $20,000 | $26,297 | 30-7-09 | 50 cents for year ending 31-7-08 | .. | $6½ sellers |

## FAR EASTERN STOCKS AND QUOTATIONS—(CONTINUED.)

| STOCK. | WHEN ESTABLISHED | CAPITAL. | NO. OF SHARES. | VALUE. | PAID UP. | RESERVE | AT WORKING ACCOUNT. | DATE. | LAST DIVIDEND. | Approximate Yield per cent. per annum at Present Quotation. | CLOSING QUOTATIONS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| International Cotton Manufacturing Co., Ld. | 1895 | Tls. 750,000 | 6) 10,000 | Tls. 75 | Tls. 75 | Tls. 175,000 | Tls. 8,372 | 30-9-09 | Tls. 7½ for year ending 30-9-09 | — | Tls. 62 |
| Laou-kung-mow Cotton Spinning & Weaving Co., Ld. | 1895 | Tls. 800,000 | 8,000 | Tls. 100 | Tls. 100 | none | Tls. 4,829 | 31-12-08 | Tls. 6 for 1909 | — | Tls. 78 |
| Soy Chee Cotton Spinning Co., Ld | 1895 | Tls. 1,000,000 | 2,000 | Tls. 500 | Tls. 500 | Tls. 31,172 | Tls. 31,173 | | Tls. 25 for 1909 | — | Tls. 225 |
| **MISCELLANEOUS.** | | | | | | | | | | | |
| Bell's Asbestos Eastern Agency, Ld. | 1895 | £5,377.10s. | 11) 8,604 | 12/6 | 12\|6 | £1,500 | £682 | 31-12-08 | 15% for 1908 | | $10 |
| China-Borneo Co., Ld. | 1903 | $720,000 | 8) 60,000 | $12 | $12 | $40,000 | Nil. | 31-12-08 | 5% for 1909 | 10 | $11½ sellers |
| China Light & Power Co., Ld. | 1901 | $550,000 | 50,000 | $10 | $10 | none | $46,483 | 31-7-09 | 60 cents for year ending 28-2-06 | | $2 sellers |
| Do. do. Special Shares | 1907 | | 17) 50,000 | $1 | $1 | | | | | | |
| China Provident Loan & Mortgage Co., Ld. | 1898 | a $1,250,000 | 7) 125,000 | $10 | $10 | $100,000 | $2,602 | 31-12-09 | 80 cents for 1909 | | $1½ buyers |
| Dairy Farm Co., Ld. | 1896 | $300,000 | 40,000 | $7½ | $6 | l $10,000<br>$10,000 | $1,850 | 31-7-09 | $1.20 for year ending 31-7-09 | 8½ | $19 buyers |
| Green Island Cement Co., Ld. | 1897 | $4,000,000 | 400,000 | $10 | $10 | $14,000 | $4,290 | 31-12-09 | Final of 40 cts. making in all 75 cts. per share for 1909 | 10 | $7½ sellers & sales |
| H. Price & Co., Ld | 1907 | $120,000 | 19) 15,000 | $10 | $10 | $5,000 | $670 | 31-12-08 | 80 cents for year ending 31-12-08 | 8 | $12 |
| Hongkong Electric Co., Ld. | 1889 | $600,000 | 60,000 | $10 | $10 | none | $11,798 | 28-2-10 | A dividend of $1.20 per share and a bonus of 10 cents | 6 | $21 sales |
| Hongkong Ice Co., Ld. | 1881 | $125,000 | 5,000 | $25 | $25 | k $150,000 | $12,662 | 31-12-09 | Final of $8 per share making in all $10 1909 | 10 | $160 sellers |
| Hongkong Rope Manufacturing Co., Ld. | 1883 | $600,000 | $60,000 | $10 | $10 | $40,000 | $9,176 | 31-12-09 | Final of $1 making in all $2 for 1909 | 8½ | $21½ sellers |
| Maatschappij tot Mijn-, Boschen Landbouwexploitatie in Langkat | 1902 | Gs. 2,500,000 | 25,000 | Glds. 100 | Glds. 100 | Tls. 547,500<br>f Tls. 63,914<br>21 Tls. 547,500 | Tls. 316,682 | 31-10-08 | Interim of Tls. 12½ for 1910. | 8½ | Tls. 1425 sellers |
| Peak Tramways Co., Ld. | 1907 | $750,000 | 25,000 | $10 | $10 | $20,000 | $2,204 | 30-4-09 | 80 cents on fully paid shares & 8 cents on $1 paid shares for year ending 30-4-09 | 6 | $15 buyers |
| Do. (New) | | | 50,000 | $10 | $1 | | | | | 3 | $1.60 buyers |
| Philippine Co., Ld. | 1904 | $750,000 | 75,000 | $10 | $10 | none | Ps. 18,640 | 31-12-08 | None | — | $11 buyers |
| Robinson Piano Co., Ltd. | 1900 | $200,000 | 22) 4,000 | $50 | $50 | $5,000 | $61,138 | 31-8-08 | 6% for ½ year ending 30.9.07 | — | $50 sellers |
| Shanghai-Sumatra Tobacco Co., Ld. | 1902 | Tls. 600,000 | 9) 30,000 | Tls. 20 | Tls. 20 | Tls. 24,820<br>w Tls. 75,000 | Tls. 5,250 | 31-10-08 | Final of Tls. 5 making Tls. 8 for 1908 | 4½ | Tls. 315 sellers |
| South China Morning Post, Ld. | 1903 | $150,000 | 6,000 | $25 | $25 | none | Dr. $31,096 | 31-8-09 | None | — | $25 buyers |
| Steam Laundry Co., Ld. | 1902 | $100,000 | 20,000 | $5 | $5 | none | $63 | 31-5-09 | 40 cents for year ending 30-5-09 | 7 | $5 buyers |
| Union Waterboat Co., Ltd. | 1905 | $500,000 | 15) 50,000 | $10 | $10 | w $11,956 | .. | 31-12-08 | 60 cents for year-end. 31-12-1908 | 5 | $9 sellers |
| United Asbestos Oriental Agency, Ld. | 1896 | $100,000 | 10,000 | $10 | $4 | $46,000 | $342 | 31-5-09 | 60 cents per ordinary share for year ending 31-5-09 | 6¼ | $12 sellers |
| Watson (A. S.) & Co., Ld. | 1886 | $900,000 | 90,000 | $10 | $10 | e) $300,000<br>$25,000 | $2,613 | 31-12-08 | Final of 30 cents making 60 cents for 1908 | 6¾ | $6¾ buyers |
| Weismann Limited | 1904 | $30,000 | 3,000 | $10 | $10 | $12,250 | $67 | 31-7-09 | 10 per cent for year endg. 31.7.08. | — | $10 buyers |
| William Powell, Ld. | 1901 | $105,000 | 15,000 | $7 | $7 | none | $782 | 30-6-09 | Final of 30 cents making 80 cents year ending June 30th 1906 | — | $3 sellers |
| **RUBBERS** | | | | | | | | | | | |
| Allagar Rubber Estates, Ltd. | 1909 | £85,000 | 29) 750,000 | 2\|- | 2\|- | — | — | — | | — | 7\|- |
| Anglo-Malay Rubber Co., Ltd. | 1905 | £150.000 | 1,500,000 | 2\|- | 2\|- | — | — | — | Interim of 6d for a\|c 1910 | — | 32\|- |
| Balgownie Rubber Estate, Ltd. | 1905 | †† $200,000 | ‡‡ 20,000 | †† $2 | †† $2 | $7,400 | $11,205 | 31-3-09 | 20% Interim for 1909 | — | $24 [S'pore] |
| Castlefield Rub. Ld., [fully pd.] | 1906 | £35,000 | 27) 32,650 | £1 | £1 | none | — | — | | — | 120\|- |
| Damansara (Selangor) Rub. Co. | 1906 | £110,000 | 25 110,000 | £1 | £1 | nil. | £2,220 | 31-12-08 | 2\|6 for 1909 | — | 185\|- |
| Golconda Malay Rubber Co. | 1907 | £80,000 | 26 80,000 | £1 | £1 | nil. | nil. | — | | — | 140\|- |
| Highland & Lnd. Para R. Co. | 1906 | £310,000 | | | | £8,784 | — | — | 7½% for 1909 (interim.) | | 155\|- ex rights |
| Do. Do. [fully paid] | | | =181.454 | £1 | £1 | | | | | | Nominal |
| Do. Do. [partly paid] | | | 123,546 | £1 | 15\|- | | | | | | |
| Kamuning (Perak) Rb. & Tin Co. | 1909 | £200,000 | 950,000 | 2\|- | 1\|- | nil. | nil. | — | | — | 11\|- prem |
| do do A Shares | | | | | £1 | | | | | | |
| do do B Shares | | | 105,000 | £1 | | — | 1,82 | — | | | |
| Kuala Lumpur Rubber Co., Ltd. | 1906 | £180,000 | 180,000 | £1 | £1 | £4,000 | — | — | A final dividend of 2\|- for 1909 | — | 225\|- |
| Linggi Plantations, Ltd. (ord.) | 1895 | £100,000 | ×900,000 | 2\|- | 2\|- | — | — | — | | — | 65\|- |
| Do. Do. (7% pref.) | Reconst | | 10 000 | £1 | £1 | | | | | | Nominal |
| Ledbury Rubber Estates Ltd. | 1908 | £125,000 | §§ 60,000 | £1 | £1 | — | — | — | | — | 112\|6 |
| Do. Do. (contrib.) | | | §§ 40,000 | £1 | 7\|6 | | | | | | 58\|6 |
| Sagga Rubber Co. Ld. | 1903 | £20,000 | 24) 2,000 | £1 | £1 | nil. | nil. | | | — | 320\|- |
| Sandycroft Rubber Co. | 1904 | $100,000 | 50,000 | $2 | $2 | $20.000 | $1,275 | 31.1 08 | Interim of 30% for 1909 | — | $43 b. ex rights & div. |
| Sekong Rubber Co., Ld | 1908 | £80,000 | 27) 80,000 | £1 | 12\|6 | nil. | nil. | — | | — | 40\|- prem. |
| Shelford Rubber State Ld. | 1906 | £65,000 | 65,000 | £1 | £1 | nil. | £836 | 31.12.08 | 3% for 1908 | — | 85\|- |
| Singapore & Johore Rb. Co., Ld. | 1903 | $250,000 | 2,500 | $10 | $10 | nil. | nil. | — | | — | $22 |
| Sungei Choh. Rb. State Co., Ld | 1907 | £45,000 | 45,000 | £1 | 17\|- | nil. | nil. | — | | — | 122\|6 |
| Sungei Kapar Rubber Co. | 1906 | £110,000 | 23) 110,000 | £1 | £1 | nil. | £3,448 | 31.12.08 | 8½% Interim for 1909 | — | 205\|- |

| LOANS AND DEBENTURES. | AGENTS FOR THE LOAN. | AMOUNT OF LOAN. | PAR VALUE. | OUTSTANDING BONDS. | WHEN PAYABLE. | CLOSING QUOTATIONS. | |
|---|---|---|---|---|---|---|---|
| China Government, 7 per cent. Silver Loan 1886 E | Hongkong & Shanghai Banking Corporation. | Tls. 767,200 | Tls. 250 | 1914 | Mar. 31st and Sept. 30th each year until Mar. 31st, 1917 | par. | Plus interest |
| Hongkong Hotel Company, Ltd., 6 per cent. Mortgage Debentures of 1899 ‡ | | $750,000 | $500 | § all | Half yearly, June 30th and December 31st | par | |
| Shanghai & Hongkew Wharf Company, Ltd., 6 per cent. Debentures of 1902 | | Tls. 543,900 | Tls. 100 | ........ | Half yearly, June 30th and December 31st | Tls. 103½ | |
| Astor House Hotel Company, Ltd., 8 per cent. Debentures of 1903 | | Tls. 500,000 | Tls. 100 | ........ | Half yearly, January 1st and July 1st | 102½ | |
| Chinese Engineering & Mining Co., Ltd., 6 per cent. Debentures of 1903 † | ........ | £500,000 | ¶ | £431,960 | Half yearly, June 30th and December 31st | par. | |
| International Cotton Manufacturing Co., Ltd. 7% Debentures of 1901 | Russo Chinese Bank | Tls. 500,000 | Tls. 100 | \|\| | Half yearly, March 31st and Sept. 30th | Tls. 97½. | |

a Authorized capital $2,000,000.
b Building Reserve Account.
c Capital Reserve Fund.
d Depreciation Fund.
e Equalization of Dividend Fund.
f Exchange and Investment Fluctuation Account.
g Gold Reserve Fund
h Exchange Reserve Account.
i Insurance Fund.
j Reinsurance Fund.
k Contingencies Account.
l Legal Reserve Fund.
m Authorized Capital
n Sinking Fund.
o Raw Sugar Reserve Account.
p Premium on New Issue.
q Boiler Repairs and Renewals Account
r Repairs and Renewals Account.
s Silver Reserve Fund.
t Depreciation and Repair Account
u Underwriting Suspense Account.
v Special account
w Special Works Fund.
x Extra Reserve Fund.
y 72,560 owned by the Company.
z 7,200 shares unissued.
1 4,000 shares unissued.
2 First issue of 60,000, of which 10,411 unallotted.
3 5,000 shares unissued.
4 4,480 shares unissued.
5 5,000 shares unallotted.
6 1,616 shares unallotted.
7 75,000 shares unissued.
8 14,000 shares unissued.
9 17,000 shares unissued.
10 40,453 shares actually issued.
11 7,688 shares actually issued.
12 4,200 shares unissued.
13 500 shares unissued.
14 399 shares unissued.
15 22,277 shares unissued.
16 10,000 shares unissued.
17 Special shares are entitled to half of the profits.
18 Capital contributed by Chinese Government-Kuping Tls. 5,000,000.
19 12,000 issued only.
20 Typhoon and Floods Insurance Fund
21 Special Cash Reserve.
22 1000 shares unissued.
23 10,000 shares unissued.
24 4595 part paid shares.
25 7,500 shares unissued.
26 10,000 shares unissued.
27 2.350 shares unissued.
28 25,000 shares unissued.
29 100,00 shares unissued.
*Based on last year's dividend.
** Based on present dividend.
§ 216 held by the Company.
|| Only Tls. 134,000 taken up.
¶ In certificates of £20 and £100.
‡ Redeemable in 10 years, or at option of Comp., the Company giving 6 months notice.
† Redeemable at par at rate of £10,000 per annum from 31st December 1903 to 31st December 95.
*** Redeemable at par on 30th June, 1915.
*Dr.* Deficit.
†† Singapore dollars.
‡‡ 4,880 shares unissued.
× 16,756 shares unissued.
§§ 25,000 shares unissued.
4140 shares unissued.

# ADDITIONAL SHANGHAI SHARE QUOTATIONS

April 16, 1910

| STOCK | CLOSING QUOTATIONS | HIGHEST AND LOWEST PRICES DURING THE WEEK | CAPITAL | NO. OF SHARES | VALUE | PAID UP | RESERVE | LAST DIVIDEND | WHEN PAID |
|---|---|---|---|---|---|---|---|---|---|
| Oriental Consolidated Mining Co., Ltd | 35\|10 | | G. $5,000,000 | 500,000 | G. $10 | G. $10 | none | Total of Gold 1.15 for 1909 | Jan. 10, 1910 |
| Vulcan Iron Works, Limited | Tls. 40 | | Tls. 500,000 | 1,000 | Tls. 500 | Tls. 500 | — | Tls. 50 for year ended 31.8.06 | Nov. 1, 1909 |
| Yangtsze Wharf & Godown Co., Limited | Tls. 207 | | Tls. 250,000 | 2,500 | Tls. 100 | Tls. 100 | Tls 50,000 | Tls. 15 for 1909 | April 1, 1910 |
| Wei-hai-wei Land & Building Co., Limited | Tls. 9 nominal | | Tls. 91,850 | 3,674 | Tls. 25 | Tls. 25 | — | Interim of $2.00 for 1909 | Aug. 8, 1909 |
| Hotel des Colonies Company, Limited | Tls. 3 | | Tls. 112,500 | 9,000 | Tls. 12½ | Tls. 12½ | Tls. 29,783 | 6% for 1907 | May 29, 1908 |
| Anglo-German Brewing Co., Limited | $85 buyers | | $100,000 | 4,000 | $100 | $100 | none | $7 for 1907 | Mar. 12, 1908 |
| Butler Tile Works, Limited | Tls. 25 | | Tls. 60,000 | 1,200 | Tls. 50 | Tls. 50 | — | Tls. 3 for year ending 31.3.09 | June 8, 1909 |
| Major Bros., Limited | Tls. 55 | | Tls. 300,000 | 6,000 | Tls. 50 | Tls. 50 | — | — | — |
| Oriental Ice Company, Limited | Tls. 20 | | Tls. 130,000 | 2,600 | Tls. 50 | Tls. 50 | — | First year | — |
| Scharffs Oil and Bone Mills, Ltd | Tls. 40 | | Tls. 200,000 | 4,000 | Tls. 50 | Tls. 50 | — | First year | — |
| Shanghai Ice Company, Limited | Tls. 12 | | Tls. 200,000 | 8,000 | Tls. 25 | | — | 3% for 1907 | Mar. 14, 1908 |
| Campbell, Moore & Co., Limited | $10 | | $12,000 | 1,200 | $10 | $10 | $9,000 | $3 for 1905 | Apr. 2, 1906 |
| Dunning & Company, Limited | $35 sellers | | $100,000 | 2,000 | $50 | $50 | — | $5 year ending 28.2.08 | Apr. 15, 1908 |
| J. Llewellyn & Co, Limited | $60 nominal | | $72,000 | 1,200 | $60 | $60 | — | 7.20 for 1908 | Apr. 1, 1906 |
| Lane, Crawford & Company | $150 | | $250,000 | 2,500 | $100 | $100 | — | Final of 3% making 6% for 1908 | June 8, 1909 |
| S. Moutrie & Company, Limited | $40 | | $250,000 | 5,000 | $50 | $50 | — | $4 for year ended March 31, 1909 | June 18, 1909 |
| Weeks & Company, Limited | $25 buyers | | $400,000 | 20,000 | $20 | $20 | $40,000 | Interim of 80 cents for 1909 | Dec. .., 1909 |
| Dominion Rubber Co., Limited | Tls. 62½ | | Tls. 225,000 | 22,500 | Tls. 10 | Tls. 4 | — | First year | — |
| Kalumpong Rubber Co., Ltd | Tls. 700 | | Tls. 700,000 | 14,000 | Tls. 50 | Tls. 50 | ** Tls. 11,844.48 | 16% for 1908 | Nov. 9, 1909 |
| Senawang Rubber Estates Company, Limited | Tls. 1550 | | Tls. 250,000 | 2,500 | Tls. 100<br>Tls. 100 | Tls. 100<br>Tls. 75 | — | — | — |
| Tebong Rubber and Tapioca Estate, Limited | Tls. 48 | | £76,000 | 76,000 | £1 | £1 | — | — | — |
| Shanghai Mercury, Limited | Tls. 50 buyers | | Tls. 105,500 | 2,100 | Tls. 50 | Tls. 50 | — | Interim of 4% for ½ year 1909 | June 21, 1909 |
| Shanghai Mutual Telephone Co., Limited | Tls. 67½ buyers | | Tls. 675,000 | 13,500 | Tls. 50 | Tls. 50 | — | Tls. 3 for 1907 | June 28, 1909 |
| China Export, Import & Lumber Company, Limited | Tls. 75 | | Tls. 350,000 | 500 | Tls. 100 | Tls. 50 | — | 10 p. c. for year ending 29.2.08 | May 1, 1908 |
| China Printing Co., Limited | Tls. 42½ | | Tls. 750,000 | 1 500 | Tls. 50 | Tls. 50 | — | 7% 1908 | Apr. 18, 1909 |
| Hirano Mineral Water Co., Ltd | Y. 10 | | Y. 125,000 | 5,000 | Y. 25 | Y. 25 | — | 10%=yen 2½ for year ending 30th Sept. 08 Y. 1.20 for year ended Feb. 29 | Apr. 26, 1909 |
| E. E. Porter & Co., Limited | $50 | | $100,000 | 2,000 | $50 | $50 | -- | $6 for 1907 | Apr. 22, 1908 |
| Shanghai Electric & Asbestos Company, Limited | $21 sellers | | $125,000 | 5,000 | $25 | $25 | — | 8% for year ended Feb. 28, 09 | June 21, 1909 |
| Shanghai Electric Construction Company, Limited | £6 sellers | £11 | £320,000 | 32,000 | £10 | £10 | — | First year | — |

# DEBENTURES

| LOANS | | PRICE—PLUS ACCRUED INTEREST | AMOUNT OF LOAN | OUTSTANDING | NOMINAL VALUE | RATE OF INTEREST | WHEN PAYABLE |
|---|---|---|---|---|---|---|---|
| Shanghai Municipal Debentures | 1892 | Tls. 92½ | Tls. 50,000 | Tls. 45,400 | Tls. 100 | 5 % | June & Dec. |
| do | 1893 | ,, 96 | ,, 125,000 | " 32,000 | " 100 | 5½ ,, | Do |
| do | 1894 | ,, 105 | ,, 105,000 | " 60,000 | " 100 | 6 ,, | Do |
| do | 1895 | ,, 92½ | ,, 115,000 | " 32,600 | " 100 | 5 ,, | Do |
| do | 1896 | ,, 92½ | ,, 140,000 | " 181,800 | " 100 | 5 ,, | Do |
| do | 1897 | ,, 92½ | ,, 268,800 | " 268,400 | " 100 | 5 ,, | Do |
| do | 1898 | ,, 105 | ,, 300,000 | " 60,000 | " 100 | 6 ,, | Do |
| do | 1900 | ,, 96 | ,, 33,900 | " 31,700 | " 100 | 5½ ,, | Do |
| do | 1901 | ,, 105 | ,, 250,000 | " 200,000 | " 100 | 6 ,, | Do |
| do | 1902 | ,, 105 | ,, 150,000 | " 150,000 | " 100 | 6 ,, | Do |
| do | 1903 | ,, 105 | ,, 490,500 | " 490,500 | " 100 | 6 ,, | Do |
| do | 1904 | ,, 105 | ,, 214,500 | " 214,500 | " 100 | 6 ,, | Do |
| do | 1905 | ,, 105 | ,, 320,000 | " 320,000 | " 100 | 6 ,, | Do |
| do | 1907 | ,, 105 | ,, 250,000 | " 250,000 | " 100 | 6 ,, | Do |
| Chinese Imperial Government Loan | 1886 E | ,, 250 | ,, 767,200 | " 351,400 | " 250 | 7 ,, | Mar. & Sept |
| Shanghai Land Investment Co., Debentures | 1890 | ,, 103½ | ,, 250,000 | " 250,000 | " 100 | 6 ,, | May & Nov. |
| do | 1892 | ,, 96 | ,, 250,000 | " 250,000 | " 100 | 5½ ,, | June & Dec. |
| do | 1894 | ,, 103½ | ,, 250,000 | " 250,000 | " 100 | 6 ,, | Mar. & Sept. |
| do | 1896 | ,, 92½ | ,, 250,000 | " 250,000 | " 100 | 5 ,, | June & Dec. |
| do | 1900 | ,, 103½ | ,, 250,000 | " 250,000 | " 100 | 6 ,, | April & Oct. |
| do | 1901 | ,, 104 | ,, 250,000 | " 250,000 | " 100 | 6 ,, | June & Dec. |
| do | 1901 | ,, 96 | ,, 100,000 | " 100,000 | " 100 | 5 ,, | May & Nov. |
| do | 1902 | ,, 103½ | ,, 400,000 | " 400,000 | " 100 | 6 ,, | June & Dec. |
| do | 1905 | ,, 103¼ | ,, 250,000 | " 250,000 | " 100 | 6 ,, | Do |
| Shanghai Waterworks Co., Debentures | 1909 | ,, 103 | ,, 815,900 | " 815,900 | " 100 | 6 ,, | Do |
| Perak Sugar Cultivation Co., Debentures | 1902 | ,, 101 | ,, 200,000 | " 200,000 | " 100 | 7 ,, | April & Oct. |
| Shanghai Gas Co., Debentures | 1909 | ,, 103 | ,, 800,000 | " 800,000 | " 100 | 5 ,, | Do |
| Shanghai and Hongkew Wharf Co., Debentures | 1902 | ,, 102 | ,, 839,100 | " 799,800 | " 100 | 6 ,, | June & Dec. |
| Astor House Co., Debentures | 1905 | ,, 103 | ,, 750,000 | " 500,000 | " 100 | 7 ,, | Do |
| British Municipal Council, Hankow | 1901 | Sh. ,, 105 | H'kow Tls 100,000 | H'kow Tls 100,000 | " 100 | 7 ,, | June & Dec. |
| Shanghai Club Debentures | 1907 | ,, 100 | Tls. 170,000 | Tls. 170,000 | " 100 | 6 ,, | Do |
| Country Club Debentures | | ,, 97 | ,, 139,000 | " 139,000 | " 100 | 6 ,, | Do |
| do | 1907 | ,, 97 | ,, 92,000 | " 92,000 | " 100 | 6 ,, | Do |
| Lane Crawford & Co., Debentures | 1907 | ,, 102½ | ,, 110,000 | " 110,000 | " 100 | 7 ,, | Mar. & Sept. |
| Anglo-French Land Debentures | 1908 | ,, 102 | ,, 250,000 | " 250,000 | " 100 | 6 ,, | June & Dec. |
| Central Stores Ltd. Debentures | 1908 | ,, 102½ | ,, 250,000 | " 250,000 | " 100 | 8 ,, | Do |
| Shanghai Mutual Tel. Co. Debentures | 1909 | ,, 102½ | ,, 350,000 | " 200,000 | " 100 | 6 ,, | Do |

# SINGAPORE SHARE QUOTATIONS

(COURTESY MESSRS. FRASER & CO., BROKERS, SINGAPORE, APRIL 27, 1910)

| Date of Formation | Capital | Capital paid up | No. of Shares Issued | Issue Value | Paid up | Reserve | Last Dividend | Name | Buyers. | Sellers. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | **MINING** | | |
| 1906 | £30,000 | 30,000 | 30,000 | 1 | 1 | ...... | ...... | Malaya and Siam Corporation Ltd. | .... | 5\|- |
| 1906 | £250,000 | 179,500 | 500,000*e* | 5\|- | 5\|- | ...... | ...... | Pahang Consolidated Co., Ltd. | 7\|6 | 8\|6 |
| 1903 | $300,000 | 300,000 | 30,000 | 10 | 10 | ...... | 10% interim for 1909 | Belat Tin Mining Co., Ltd. | 4.00 | 5.00 |
| 1907 | $300,000 | 225,000 | 22,500*s* | 10 | 10 | ...... | ...... | Bruang Ltd. | 4.50 | 5.00 |
| 1901 | $600,000 | 600,000 | 60,000 | 10 | 10 | 25,000 | 6% for year ending 30-4-09 | Brusch Hydraulic Tin Mining Co., Ltd. | 5.00 | 6.00 |
| 1907 | $400,000 | 375,000 | 37,500*b* | 10 | 10 | ...... | ...... | Kanaboi, Ltd. | 2.15 | 2.50 |
| 1901 | £60,000 | 60,000 | 60,000 | 1 | 1 | ...... | 2\|- interim 1909 | Kinta Tin Mines, Ltd. | 1[illegible]25 | 14.75 |
| 1905 | $150,000 | 99,000 | 9,900*c* | 10 | 10 | 6,485.68 | 35% for year ending 31-12-07 | Kuantan Tin Mining Co., Ltd. | 3.00 | 3.25 |
| 1906 | £120,000 | 120,000 | 120,000 | 1 | 1 | ...... | 1\|- interim 1909 | Lahat Mines Ltd. | 8.00 | 9.00 |
| 1906 | $450,000 | 450,000 | 45,000 | 10 | 10 | ...... | ...... | Malacca Tin Dredging Co., Ltd. | 2.50 | 2.75 |
| 1907 | £100,000 | 80,000 | 80,000*a** | 1 | 1 | ...... | ...... | Pengkalen. Ltd. | 6.50 | 7.50 |
| 1904 | £100,000 | 80,000 | 80,000 | 1 | 1 | ...... | ...... | Pusing Bahru Tin Mines, Ltd | 8.25 | 8.50 |
| 1904 | £120,000 | 100,000 | 100,000*d* | 1 | 1 | 6,000 | 45% for year ending 30-6-07 | Pusing Lama Tin Mines, Ltd. | .... | 3.00 |
| 1907 | $450,000 | 300,000 | 30,000*y* | 10 | 10 | ...... | ...... | Rahman Hydraulic Tin, Ltd. | 8.50 | 9.00 |
| 1905 | £27,000 | 27,000 | 27,000 | 1 | 1 | ...... | 1\|- for 1907 | Rambutan, Ltd. | 13.00 | 13.50 |
| 1892 | £200,000 | 200,000 | 200,000 | 1 | 1 | 4,873 | 1\|2 paid April, 1910 | Raub Aust. Gold Ming. Co., Ltd, | 4.75 | 5.00 |
| 1905 | £40,000 | 40,000 | 40,000 | 1 | 1 | ...... | ...... | Redhills Tin Mining Co., Ltd. | 3.00 | 3.50 |
| 1900 | $110,000 | 110,000 | 22,000 | 5 | 5 | ...... | 3% for year ending 22-1-09 | Royal Johore Tin Mining Co., Ltd | 1.35 | 1.50 |
| 1907 | $550,000 | 500,000 | 50,000*f** | 10 | 10 | ...... | ...... | Salak South, Ltd. | 4.00 | 5.00 |
| 1907 | £80,000 | 80,000 | 80,000 | 1 | 1 | ...... | ...... | Sempam Tin Mines, Ltd. | 2.35 | 2.50 |
| 1906 | $850,000 | 850,000 | 85,000 | 10 | 10 | 25,000 | 5% interim for 1909 | Serendah Hydraulic Tin Ming. Co., Ltd. | 6.50 | 7.50 |
| 1899 | $230,000 | 230,000 | 23,000 | 10 | 10 | ...... | 3% for ½ year ending 31-12-08 | Sipiau Tin Co., Ltd. | 1.50 | 1.75 |
| 1909 | $200,000 | $150,000 | 15,000 | 10 | 10 | ...... | ...... | Sungei Gau Tin Mining Co., Ltd. | 4.50 | 5.00 |
| 1907 | £90,000 | 70,000 | 70,000*t* | 1 | 1 | ...... | 1\|6 interim 1909 | Tekka, Limited. | 21.00 | 22.00 |
| 1906 | £150,000 | 150,000 | 150,000 | 1 | 1 | ...... | 1\|- interim 1909 | Tongkah Harbour Tin Dredging Co., Ltd. | 12.75 | 13.00 |
| 1902 | £160,000 | 160,000 | 160,000 | 1 | 1 | ...... | 3\|- interim 1909 | Tronoh Mines, Ltd. | 13.00 | 14.00 |

## SINGAPORE SHARE QUOTATIONS.—(CONTINUED.)

| Date of Formation | Capital | Capital paid up | No. of Shares Issued | Issue Value | Paid up | Reserve | Last Dividend | Name | Buyers. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | **STERLING RUBBER** | | |
| 1909 | £85,000 | 75,000 | 750,000x* | 2/- | 2/- | —— | ...... | Allagar Rubber Estates, Ltd. | 7/- | 8/- |
| 1905 | £150,000 | 150,000 | 1,500,000 | 2/- | 2/- | —— | 80% for year ending 31-12-09 | Anglo-Malay Rub. Co., Ltd. | 1.12.0 | 1.14.0 |
| 1909 | £50,000 | 35,250 | 470,000g‡ | 2/- | 1/6 | —— | ...... | Batang Malaka Rubber Estates, Ltd | 2/6 | 3/6 p. |
| 1904 | £30,000 | 20,187 10/- | 19,000 | 1 | 1 | —— | 50% for year ending 31-12-1909 | Batu Caves Rub. Co., Ltd | 17.10.0 | 18.10.0 |
| | | | 4,750f | 1 | 5/- | —— | | | | |
| 1906 | £80,000 | 70,000 | 70,000l* | 1 | 1 | —— | 2½% interim 1909 | Batu Tiga (Selangor) Rubber Co., Ltd. | 5.0.0 | 5.10.0 |
| 1909 | £100,000 | 68,908 | 57,816 | 1 | 1 | —— | ...... | Bukit Kajang Rubber Estates, Ltd | 3.7.6 | 3.10.0 |
| | | | 22,184n* | 1 | 10/- | —— | ...... | " " " *part paid* | 2.5.0 | 2.10.0p. |
| 1907 | £30,000 | 25,500 | 24,000e* | 1 | 1 | —— | ...... | Bukit Lintang Rubber Estates, Ltd | 5.0.0 | 5.10.0 |
| | | | 6,000 | 1 | 5 | —— | ...... | " " " *part paid* | 2.0.0 | 2.5.0p. |
| 1903 | £70,000 | 66,700 | 66,700g | 1 | 1 | 2,000 | 60% interim 1909 | Bukit Rajah Rubber Co., Ltd. | 20.0.0 | 21.0.0 |
| 1906 | £35,000 | 30,000 | 30,000s* | 1 | 1 | —— | ...... | Castlefield (K.) R. Estate, Ltd. | 5.0.0 | 5.15.0. |
| 1909 | £225,000 | 175,000 | 1750,000t* | 2/- | 2/- | —— | ...... | Chersonese (F.M.S.) Estates, Ltd | 6/- | 7/- |
| 1904 | £16,000 | 16,000 | 100,000 | 2/- | 2/- | —— | 25% interim 1909 | Cicely Rubber Estates Co., Ltd | 2.15.0 | 2.18.6 |
| | | | 60,000 | 2/- | 2/- | —— | 26¼% interim 1909 | " " " " 5% Pref | 2.15.0 | 2.15.6 |
| 1905 | £75,000 | 62,007 | 62,007i | 1 | 1 | 1,000 | 20% interim 1909 | Consolidated Malay Rub. Estates, Ltd | 16.0.0 | 17.0.0 |
| 1906 | £110,000 | 102,500 | 102,500k* | 1 | 1 | —— | 50% for year ending 31-12-09 | Damansara (Selangor) Rubber Co., Ltd. | 8.10.0 | 9.0.0 |
| 1903 | £600,000 | 444,200 | 444,200a | 1 | 1 | —— | ...... | Duff Development Co., Ltd. | 1.16.0 | 1.18.0 |
| 1909 | £45,000 | 40,000 | 40,000p* | 1 | 1 | —— | ...... | Edinburgh Rub. Estates, (Selangor) Ld. | 7.0.0 | 8.0.0 |
| 1907 | £80,000 | 70,000 | 70,000n | 1 | 1 | —— | ...... | Golconda Rubber Co., Ltd. | 6.0 0 | 7.0.0 |
| 1906 | £310,000 | 305,000 | 305,000j | 1 | 1 | 8,784 | 15% interim 1909 | Highlands & Lowds. Para Rub. Co., Ltd. | 8.5.0 | 8 10.0 |
| 1904 | £50,000 | 30,000 | 30,000q* | 1 | 1 | 2,500 | 25% interim | Inch Kenneth Rubber Estates, Ltd | 16.0.0 | 17.0.0 |
| 1909 | £200,000 | 182,500 | 950,000p | 2/- | 1/- | —— | ...... | Kam. (P.) R. & T. Co., Ltd. "A" Shares | 11/- | 12/-p. |
| | | | 105,000 | 1 | 1 | —— | ...... | " " " "B" " | — | nom. |
| 1905 | £65,000 | 65,000 | 65,000 | 1 | 1 | —— | ...... | Kapar Para Rubber Estates, Co., Ltd | 9.0.0 | 10.0.0 |
| 1909 | £35,000 | £18,750 | 90,000 | 2/- | 2/- | —— | ...... | Kota Tinggi Johore Rubber Co., Ltd. | 4/6 | 5/6 |
| | | | 160,000 | 2/- | 1/- | ..... | ...... | " " " " | 2/- | 3/- p. |
| 1906 | £180,000 | 180,000 | 180,000 | 1 | 1 | —— | 20% for year ending 30-6-09 | Kuala Lumpur Rubber Co., Ltd | 11.0.0 | 11.10.0 |
| 1907 | £100,000 | 90,000 | 90,000h* | 1 | 1 | —— | 25% for year ending 31-12-09 | Labu (F.M.S.) Rub. Co., Ltd. *part paid* | 9.10.0 | 10.0.0 |
| 1907 | £320,000 | 269,780 | 198,930v | 1 | 1 | 3,000 | 10% interim 1909 | Lanadron Rubber Estates, Ltd. | 7.10.0 | 8.0.0 |
| | | | 70,850 | 1 | 15/- | —— | 10% interim 1909 | " " " *part paid* | 5.15.0 | 6.5.0 p. |
| 1908 | £125,000 | 75,000 | 60,000g* | 1 | 1 | —— | ...... | Ledbury Rubber Estates Ltd. | 5.0.0 | 5.5.0 |
| | | | 40,000 | 1 | 7/6 | —— | ...... | " " " *part paid* | 3.0.0 | 3.10.0p. |
| 1895 | £100,000 | 98,324 8/- | 883,244w | 2/- | 2/- | 4,000 | 65% interim for 1909 | Linggi Plantations Ltd., | 3.4.0 | 3.6.0 |
| | | | 10,000 | 1 | 1 | —— | 7% for year ending 31-12-08 | " " " *7% Pref* | — | nom. |
| 1907 | £140,000 | 118,000 | 118,000k | 1 | 1 | —— | 3% for year ending 31-12-08 | London Asiatic R. & Produce Co., Ltd. | 7.0.0 | 8.0.0 |
| 1909 | £220,000 | 125,000 | 50,000 | 1 | 1 | ..... | ...... | Lumut Rubber Estates, Ltd. | 2.15.0 | 3.5.0 |
| | | | 150,000 | 1 | 10/- | —— | ...... | " " " " *part paid* | 1.17.6 | 2.2.6 p. |
| 1906 | £400,000 | 300,000 | 185,000 | 1 | 1 | —— | 10% interim for 1909 | Malacca Rubber Plants., Ltd. | 15.0.0 | 16.0.0 |
| | | | 115,000 | 1 | 1. | ..... | " " " | " " " " *7½% Pref.* | 15.0.0 | 16.0.0 |
| 1909 | £210,000 | 175,000 | 1,750,000 | 2/- | 2/- | —— | ...... | Merlimau Rubber Estates, Ltd | 7/6 | 8/6 |
| 1903 | £30,000 | 22,500 | 225,000l | 2/- | 2/- | —— | 125% for year ending 31-12-09 | Pataling Rubber Estates Synd. Ltd | 3.18.0 | 4.0.0 |
| 1906 | £85,000 | 85,000 | 85,000 | 1 | 1 | —— | 12½% interim for 1909 | Perak Rubber Plantations, Ltd | 6.0.0 | 7.0.0 |
| 1909 | £60,000 | 36,875 | 15,000z* | 1 | 1 | —— | ...... | Rembia Rubber Estates Ltd. | 1.10.0 | 1.15.0 |
| | | | 35,000 | 1 | 12/6 | —— | ...... | " " " *6% Cum. Pref.* | 12/6 | 16/6 p. |
| 1904 | £20,000 | 18,752 | 20,000u | 1 | 1 | ..... | ...... | Sagga Rubber Company, Limited | 16.0.0 | 17.0.0 |
| 1905 | £100,000 | 100,000 | 71,378<br>28,622l‡ | 1 | 1 | ..... | ...... | Sapong Rubber and Tobacco Estates, Ltd. | 1.16.0 | 2.0.0 |
| 1907 | £100,000 | 100,000 | 100,000 | 1 | 1 | —— | ...... | Seafield Rubber Co., Ltd | 7.10.0 | 7.15.0 |
| 1898 | £30,000 | 30,000 | 300,000 | 2/- | 2/- | 3,000 | 125% interim 1909 | Selangor Rubber Co., Ltd | 4.0.0 | 4.5.0 |
| 1909 | £50,000 | 32,000 | 40,000e‡ | 1 | 16/- | —— | ...... | Sendayan (F. M. S.) Rubber Co., Ltd | 2.0.0 | 2.2.6 p. |
| 1906 | £65,000 | 65,000 | 65,000 | 1 | 1 | —— | 3% for year ending 31-12-08 | Shelford Rubber Estate, Ltd | 4.7.6 | 4.15.0 |
| 1909 | £150,000 | 100,000 | 100,000i‡ | 1 | 15/- | —— | ...... | Sialang Rubber Estates, Ltd | 2.0.0 | 2.2.6 p. |
| 1909 | £120,000 | 100,000 | 100,000s* | 1 | 1 | —— | ...... | Singapore Para Rubber Estates, Ltd. | 4.2.6 | 4.7.6 |
| 1906 | £192,500 | 192,500 | 1,925,000 | 2/- | 2/- | —— | 7½% interim 1909 | Straits Settlements (B.) Rub. Co., Ltd | 10/- | 11.6 |
| 1907 | £45,000 | 40,500 | 12,600 | 1 | 1 | —— | ...... | Sungei Choh Rub. Estate, Ltd. *Fully pd.* | 4.10.0 | 5.0.0 |
| | | | 32,400 | 1 | 17/6 | ..... | ...... | " " " " *part paid* | 4.0.0 | 4.5.0 p. |
| 1906 | £110,000 | 100,000 | 100,000c* | 1 | 1 | ..... | 7½% interim 1909 | Sungei Kapar Rubber Co., Ltd | 10.0.0 | 10.10.0 |
| 1907 | £70,000 | 55,000 | 55,000 | 1 | 1 | ..... | ...... | Sungei Salak Rubber Co., Ltd | 4.15.0 | 5.5.0 |
| 1904 | £50,000 | 50,000 | 50,000 | 1 | 1 | —— | ...... | Sungei Way (Selangor) Rub. Co., Ltd | 6.0.0 | 6.10.0 |
| 1908 | £150,000 | 60,000 | 36,000 | 1 | 1 | —— | ...... | Tebrau (Johore) Rubber Co | 5.10.0 | 6.10.0 |
| | | | 64,000 | 1 | 7/6 | —— | ...... | " " " *part paid* | 4.0.0 | 4.5.0 p. |
| 1907 | £200,000 | 170,000 | 170,000j* | 1 | 1 | —— | 5% interim 1910 | United Serdang (S.) R. Plantations, Ltd. | 7.0.0 | 7.10.0 |
| 1908 | £85,000 | 65,000 | 650,000 | 2/- | 2/- | —— | 10% for year ending 30-6-09 | United Sumatra Rubber Estates, Ltd. | 15/- | 16/6 |
| 1904 | £60,000 | 50,600 | 506,000m | 2/- | 2/- | ..... | 25½% interim for 1909 | Vallambrosa Rubber Co., Ltd. | 2 15.0 | 2.18.0 |
| | | | | | | | | **DOLLAR** | | |
| 1909 | $120,000 | 105,000 | 105,000w* | 1 | 1 | ..... | ...... | Alor Gajah Rubber Estate, Ltd | 4.00 | 4.50 |
| 1909 | $750,000 | 600,000 | 140,000b‡ | 5 | 5 | ..... | ...... | Ayer Panas Rubber Estates, Ltd | 14.50 | 15.00 |
| 1905 | $200,000 | 151,200 | 151,200 | x 1 | 1 | 5,250 | 100% for year ending 31-3-1910 | Balgownie Rub. Estate, Ltd | 23.00 | 25.00 |
| 1910 | $500,000 | 500,000 | 50,000 | 10 | 10 | —— | ...... | Bukit Timah Rubber Estates, Ltd | 22.00 | 24.00 |
| 1910 | $750,000 | 700,000 | 70,000h‡ | 10 | 10 | —— | ...... | Changkat Serdang Estates. Ltd | 19.00 | 21.00 |
| 1909 | 200,000 | 62,500 | 12,500 | 10 | 5 | —— | ...... | Cheras Rubber Estates, Ltd | 8.50 | 10.00 p. |
| 1909 | $550,000 | 475,000 | 475,000v* | 1 | 1 | ..... | ...... | Elphinstone Estates, Ltd | 4.50 | 5.00 |
| 1909 | $300,000 | 300,000 | 300,000 | 1 | 1 | —— | ...... | Glenealy Plantations, Ltd | 2.75 | 3.25 |
| 1910 | $200,000 | 164,285 | 12,857m‡ | 5 | 5 | —— | ...... | Haytor Rubber States, Ltd | — | nom. |
| | | | 20,000 | 5 | 4 | —— | ...... | " " " " *part paid* | 8.00 | 10.00 p. |
| 1910 | $600,000 | 150,000 | 30,000c‡ | 10 | 5 | ..... | ...... | Henrietta Estates, Ltd. | 5.00 | 7.00 |
| 1906 | $680,000 | 680,000 | 40,000 | 17 | 17 | —— | ...... | Hevea Rubber Planting Co. Ltd. | 20.00 | 23.00 |
| 1909 | $250,000 | 200,000 | 20,000a‡ | 10 | 10 | —— | ...... | Indragiri (S.) R. and Gutta P. Co., Ltd. | 42.00 | 45.00 |
| 1907 | $300,000 | 200,000 | 20,000d‡ | 10 | 7 | —— | ...... | Kombok Rubber Co., Ltd | 20.00 | 21.00 |
| 1909 | $400,000 | 400,000 | 80,000 | 5 | 5 | —— | ...... | Pajam Limited. | 19.00 | 20.00 |
| 1909 | $200,000 | 200,000 | 200,000 | 1 | 1 | —— | ...... | Pantai, Limited | 2.50 | 2.75 |
| 1909 | $500,000 | 450,000 | 45,000m* | 10 | 10 | —— | ...... | Pegoh. Limited | 55.00 | 56.00 |
| 1910 | $450,000 | 295,000 | 45,000f‡ | 5 | 5 | —— | ...... | Port Dickson Rubber Co., Ltd | 17.00 | 17.50 |
| | | | 35,000 | 5 | 2 | —— | ...... | " " " | 6.00 | 8.00 p. |
| 1904 | $100,000 | 100,000 | 50,000b* | 2 | 2 | 20,000 | 150% for year ending 31-1-10 | Sandycroft Rubber Co., Ltd. | 43.00 | 44.00 |
| 1905 | $500,000 | 500,000 | 5,000 | 100 | 100 | —— | ...... | Singapore Rubber Co., Ltd. | 600.00 | 650.00 |
| 1903 | $425,000 | 328,800 | 121,150 | 2 | 2 | —— | 20% for year ending 31-12-09 | Singapore & Johore Rub. Co., Ltd | 20.00 | 21.00 |
| | | | 87,500 | 2 | 1 | —— | " " " " | " " " *part paid* | 17.00 | 18.00 p. |
| 1909 | $250,000 | 60,000 | 10,000o* | 10 | 6 | ..... | ...... | St. Helena Rubber Coy., Ltd | 35.00 | 73.00 p. |
| 1909 | $200,000 | 165,000 | 33,000p* | 5 | 5 | ..... | ...... | Teluk Anson Rubber Estate, Ltd | 11.50 | 12.50 |
| 1909 | $1,000,000 | 637,500 | 737,500y* | 1 | 1 | ..... | ...... | United Singapore Rubber Estates, Ltd. | 4.50 | 4.75 |
| | | | | 1 | -/50 | ..... | ...... | " " " " " | — | nom. |
| | | | | | | | | **GENERAL** | | |
| 1903 | £400,000 | 400,000 | 400,000 | 1 | 1 | —— | ...... | Singapore Electric Tramways, Co., Ltd. | 4/3 | 4/6 |
| 1907 | $1,500,000 | 1,065,150 | 25,000d* | 10 | 10 | —— | 10% for year ending 31/12/08 | Eastern Smelting Co. Ltd | — | 11.50 n. |
| | | | 116,450 | 10 | 7 | —— | 10% for year ending 31-12-08 | " " " *part paid* | 7.50 | 8.00 |
| 1898 | $225,000 | 225,000 | 4,500 | 50 | 50 | 170,000 | 15% & 5% bon. for yr. end. 31-12-09 | Fraser & Neave, Ltd. | 200.00 | 210.00 |
| 1905 | $2,400,000 | 2,400,000 | 18,000 | 100 | —— | 75,000 | 2½% for year ending 31-10-08 | Howarth Erskine, Ltd | 57.50 | 62.50 |
| | | | 6,000 | 100 | —— | —— | 7% for year ending 31-10-08 | " " *7% Pref* | 90.00 | 92.50 |
| 1896 | $1,000,000 | 1,000,000 | 6,000 | 100 | 100 | 40,600 | 12% for year ending 31-12-09 | Katz Brothers, Ltd. *Deferred* | — | 125.00 |
| | | | 4,000 | 100 | 100 | —— | 8% " " " "09 | " " *8% Cum. Pref* | — | nom. |
| 1901 | $34,000 | 34,000 | 3,400 | 10 | 10 | —— | 20% for year ending 31-10-09 | Maynard & Co., Ltd. | 22.00 | 22.50 |
| 1899 | $875,000 | 875,000 | 6,000 | 100 | 100 | 175,000 | 5% for year ending 31/12/09 | Riley, Hargreaves & Co., Ltd. | 70.00 | 75.00 |
| | | | 2,750 | 100 | 100 | —— | 7% for year ending 31/12/09 | " " " " *7% Pref* | 100.00 | — |
| 1903 | $600,000 | 250,000 | 25,000n | 10 | 10 | —— | 10% for year ending 30-6-09 | Singapore Cold Storage Co., Ltd | 15.00 | — |
| 1891 | $30,000 | 30,000 | 600 | 50 | 50 | 23,000 | 10% for year ending 31-7-09 | Singapore Dispensary Ltd. | 52.50 | 54.00 |
| 1884 | $200,000 | 200,000 | 2,000 | 100 | 100 | 75,000 | 15% for year ending 31-12-09 | Straits Ice Co., Ltd | 155.00 | 165.00 |
| 1890 | $500,000 | 498,000 | 4,980 | 100 | 100 | 760,000q | 10% for half yr. end 30-9-09 | Straits Steam Ship Co., Ltd | 225.00 | — |
| 1887 | $3,000,000 | 3,000,000 | 3,000,000 | 10 | 10 | 130,000r<br>1,222,409 | 10% & 5% bon. for yr. end. 30/9/09 | Straits Trading Co., Ltd. | 59.00 | 60.00 |

### DEBENTURES

| | | |
|---|---|---|
| Howarth Erskine, Ltd. 6%......$ 600,000 | — | par. |
| Riley, Hargreaves & Co., Ltd. 6%,284,000 | 1% | 3% p. |
| Singapore Electric Tramways, Co., Ltd. 5%......£350,000 | — | — |
| Singapore Municipal 5%......1,878,000 | — | nom. |
| " " 4½% of 1907....1,600,000 | 7% | 8% p. |
| " " 4½% of 1909....1,000,000 | 6% | 7% p. |
| " 4%...... 602,900 | — | 7% d. |

---

a { 152,800 unissued; 43,949 6% debenture
b 2,500 unissued
c 5,100 "
d 20,000 "
e { 54,500 £1 Prefs. issued; 45,500 £1 " unissued; 100,000 5/- Ord. "
f 6,250 unissued
g 3,300 "
h 12,993 "
i 5,000 "
j £40,000 6% Debentures 22,000 unissued
k 75,000 unissued
l 94,000 "
m 35,000 "
n 20,000 unissued
o 175,000 unissued "A" shares
p Sundry Reserves.
q "
r 7,500 unissued
s 20,000 "
t 2,268 9/- paid shares
u 50,220 unissued
v 16,756 "
w 4,880 "
x 15,000 "
y 20 unissued
z 20,000 "
a* 221 7½% Debentures
b* 10,000 unissued
c* 8,550 "
d* 5,000 unissued
e* 25,000 "
f* 10,000 "
g* 30,000 "
h* 7,500 "
i* £10,000 Convertible 6% Debentures issued £10,000 do. unissued
j* 5,000 unissued
k* 20,000 "
l* 15,000 "
m* 7,000 "
n* 20,000 "
o* 5,000 "
p* 500,000 "
q* 15,000 "
r* 75,000 "
s* 15,000 unissued
t* 100,000 "
u* 262,500 "
v* 10,000 "
w‡ 5,000 "
x‡ 30,000 "
y‡ 30,000 "
z‡ 10,000 "
a‡ 10,000 "
b‡ 10,000 "
c‡ 30,000 "
d‡ 5,000 "
e‡ 50,000 "
f‡ 70,000 "
g‡ 35,000 "
h‡ 6% Deb. Stock Convertible.
i‡ 7,143 unissued.

# YOKOHAMA SHARE QUOTATIONS

COURTESY A. C. HUTTON POTTS, SHARE AND GENERAL BROKER, YOKOHAMA, MAY 21ST, 1910.

| STOCKS. | CAPITAL. | NO. OF SHARES. | ISSUE VALUE. | AMOUNT PAID UP. | RESERVE FUND. | AT WORKING ACCOUNT OR CARRIED FORWARD. | DATE. | LAST DIVIDEND. | FOR TERM. | CLOSING QUOTATION. |
|---|---|---|---|---|---|---|---|---|---|---|
| Brett & Co., Ltd. | -Y- 28,000 | 2,800 | -Y- 10 | -Y- 10 | | | 31-12-08 | 12½% | for 1 year | 10 Sales |
| Club Hotel, Ltd. | 185,000 | 1,850 | 100 | 100 | 3,000 | -Y- 768.96 | 31-3-08 | 7% | for 1 year | 60 Buyers |
| Grand Hotel, Ltd. | 500,000 | 5,000 | 100 | 100 | 10,000 | | 31-12-09 | 2½% | for ½ year | 100 Sales |
| Helm Bros., Ltd. | 186,000 | 3,720 | 50 | 50 | 25,000 | -Y- 6,395.55 | 31-12-08 | 17½% | for 1 year | 80 Sales. |
| Langfeldt & Co., Ltd. | 100,000 | 2,000 | 50 | 50 | 12,500 | 3,653.92 | 31-12-09 | 10% | for 1 year | 57:50 Buyers. |
| C. Nickel & Co., Ltd. † | 500,000 | 20,000 | 25 | 25 | | 36,332.37 | 31-10-09 | 20% | for 1 year | 50 Sales |
| Thwaites, Limited | 100,000 | 2,000 | 50 | 50 | | | First Year | — | — | |
| Yokohama Engine and Iron Works * | 500,000 | 10,000 | 50 | 50 | 50,000 | -Y- 29,421.19 | 31-5-08 | 10% | for 1 year | 50 Nominal |
| Oriental Hotel, Ltd., Ordinary | 250,000 | 3,000 | 50 | 50 | 306,090.49 | | 31-8-07 | 12% | for 1 year | 50 Sales. |
| Oriental Hotel, Ltd., Preference | | 2,000 | 50 | 50 | | | | 8% | for 1 year | 52:50 Sales |
| The Union Estate and Investment Co., Ltd. ‡ | 1,000,000 | 10,000 | 100 | 100 | 6,000.00 | 1,753.03 | 30-9-08 | 7% | for 1 year | 100 Nominal. |

† 285,000 unissued.
‡ 475,000 unissued.

*-Y- 390,000 issued.
110,000 unissued.

| DEBENTURE LOANS. | AMOUNT OF LOAN. | FACE VALUE OF DEBENTURES. | RATE OF INTEREST. | INTEREST PAYABLE. | CLOSING QUOTATION. |
|---|---|---|---|---|---|
| Brett & Company, Limited | 11,500.00 | 100.00 | 7% | 1 June and 1 Dec. | 95 Sales. |
| Yokohama United Club | 250,000.00 | 100.00 | 7% | 30 June and 31 Dec. | 100 Sales. |
| Oriental Hotel, Limited | 350,000.00 | 100.00 | 8% | 1 April and 1 Oct. | 103.50 Sales. |
| Union Estate and Investment Co., Limited | 250,000.00 | 100.00 | 6% | 30 June and 31 Dec. | 95 Sellers. |

| JAPANESE STOCKS. | FACE VALUE. | AMOUNT PAID UP. | LAST DIVIDEND. | DIVIDEND PAYABLE. | CLOSING QUOTATION. |
|---|---|---|---|---|---|
| **Bonds & Debentures.** | | | | | |
| Exchequer Bonds 2nd issue | -Y-100 | -Y-100 | 5% | March and Sept. | -Y-100.00 |
| Exchequer Bonds 3rd issue | 100 | 100 | 5% | March and Sept. | ,, 100.00 |
| Consolidated Bonds (Seiri) | 100 | 100 | 5% | June and Dec. | ,, 101.00 |
| War Bonds (Gunji) | 100 | 100 | 5% | June and Dec. | ,, 101.00 |
| Imperial 5% Bonds | 100 | 100 | 5% | March and Sept. | ,, 99.80 |
| Special 5% Bonds (issued 1906) | 100 | 100 | 5% | June and Dec. | ,, 101.00 |
| Yokohama Water Works Bonds | 100 | 100 | 6% | June and Dec. | ,, 105.50 |
| Yokohama City Public Loan Bonds | 100 | 100 | 6% | March and Sept. | ,, 104.50 |
| Osaka City Harbour Construction Bonds | 100 | 100 | 6% | June and Dec. | ,, 105.00 |
| Osaka City Public Loan Bonds | 100 | 100 | 6% | June and Dec. | ,, 105.00 |
| Kawasaki Dock Yards Co.'s Debentures | 100 | 100 | 7% | June and Dec. | ,, 105.00 |
| Tokyo Race Associations " | 500 | 500 | 30% | June and Dec. | ,, 200.00 |
| **Railways & Electric Trams.** | | | | | |
| Tokyo Railway Company, Limited | 50 | 50 | 5 2/5% | June and Dec. | ,, 72.15 |
| Yokohama Electric Tramway Company, Limited | 50 | 50 | 6% | July and Jan. | ,, 51.00 |
| Keihin Electric Tramway Company, Limited | 50 | 50 | 6% | June and Dec. | ,, 56.95 |
| Southern Manchurian Railway Co., Ltd. | 100 | 20 | 6% | June and Dec. | ,, 48.00 |
| Hanshin Electric Tramway Co., Ltd. | 50 | 50 | 12% | May and Nov. | ,, 117.50 |
| **Cotton Spinnings.** | | | | | |
| Kanegafuchi Cotton Spinning Company, Limited | 50 | 50 | 14% | July and Jan. | ,, 110.40 |
| Fuji Gassed-yarn Company, Limited | 50 | 50 | 14% | July and Jan. | ,, 104.15 |
| Tokyo Cotton Spinning Company, Limited | 50 | 50 | 8% | July and Jan. | ,, 47.80 |
| Imperial Hemp Weaving Company, Limited | 50 | 50 | 12% | July and Jan. | ,, 67.45 |
| Nisshin Boseki Kabushiki Kaisha | 50 | 17½ | 7% | —— | ,, 16.00 |
| **Sugar & Beer Cos.** | | | | | |
| Dai-nippon Sugar Refinery Company, Limited | 50 | 50 | ...... | May and Nov. | ,, 20.00 |
| Ensuiko Sugar Refinery Company, Limited | 50 | 20 | 20% | June and Dec. | ,, 52.20 |
| Dai-nippon Beer Company, Limited | 50 | 50 | 12% | July and Jan. | ,, 82.05 |
| Kirin Brewery Company, Limited | 50 | 50 | 7% | July and Jan. | ,, 53.00 |
| **Docks & Steamships.** | | | | | |
| Yokohama Dock Company, Limited | 50 | 33 | 12% | June and Dec. | ,, 61.00 |
| Uraga Dock Company, Limited | 50 | 50 | ...... | July and Jan. | ,, 8.00 |
| Kawasaki Dockyard Company, Limited | 50 | 50 | 12½% | Feb. and Aug. | ,, 57.00 |
| Nippon Yusen Kaisha | 50 | 50 | 10% | May and Nov. | ,, 92.80 |
| Hokkaido Tanko S. S. Company, Limited | 50 | 50 | 5% | July and Jan. | ,, 24.30 |
| **Miscellaneous.** | | | | | |
| Tokyo Electric Light Company, Limited | 50 | 50 | 12% | June and Dec. | ,, 116.20 |
| Tokyo Gas Company, Limited | 50 | 50 | 13% | July and Jan. | ,, 109.00 |
| Yokohama Union Electric Light Company, Limited | 50 | 50 | 14% | June and Dec. | ,, 107.00 |
| Fuji Paper Mills | 50 | 50 | 6% | June and Dec. | ,, 33.95 |
| Otaru Timber Company, Limited | 50 | 50 | ...... | March and Sept. | ,, 8.00 |
| Hoden Petroleum Company, Limited | 50 | 50 | 20% | April and Oct. | ,, 71.50 |
| Tokyo Rope Manufacturing Company, Limited | 50 | 50 | 18% | June and Dec. | ,, 115.00 |
| Japan Horse Improvement Company, Limited | 50 | 50 | | March and Sept. | ,, 15.00 |
| Tokyo Stock Exchange Company | 50 | 50 | 15 1/5% | June and Dec. | ,, 229.80 |
| Osaka Electric Light Company, Limited | 50 | 50 | 16% | July and Jan. | ,, 136.50 |
| Kobe Electric Light Company, Limited | 50 | 50 | 14% | July and Jan. | ,, 103.00 |

# BANGKOK SHARE QUOTATIONS

(COURTESY MESSRS. EDWARDS & CO., BANGKOK, SIAM.)

| NAME | BUYERS. | SELLERS. | LAST SALES. | ESTABLISHED. | CAPITAL. | NO. OF SHARES. | ISSUE VALUE. | AMOUNT PAID UP. | RESERVE FUND | LAST DIVIDEND. |
|---|---|---|---|---|---|---|---|---|---|---|
| Siam Electricity Co., Ltd. | Tcs. 375 | Tcs. 380 | Tcs. 380 | 1901 | £ 300,000 | 30,000 | £ 10— | £ 300,000 | Tcs. 491,338 | 12% Tcs. 4 bon. |
| Paknam Railway Co., Ltd. | ,, 200 | ,, — | ,, 220 | 1893 | Tcs. 400,000 | 5,000 | Tcs. 80 | Tcs. 400,000 | ,, [illegible]7,566 | 8% |
| Siam Tramway Co., Ltd | ,, — | ,, — | ,, 108 | 1905. | ,, 1,450,000 | 6250 Shares<br>7250 Deb.<br>1000 P. Shares | ,, 100 | ,, 2,230,000 | ,, 1,875 | — |
| Meklong Railway Co., Ltd. | ,, — | ,, 106 | ,, 105 | 1907 | ,, 2,230,000 | 22,300 | ,, 100 | ,, 223,000 | ,, 28,000 | 5% |
| Bangkok Manufact. Co., Ltd. | ,, — | ,, — | ,, 132 | 1898 | ,, 400,000 | 4,000 | ,, 100 | ,, 400,000 | ,, 60,000 | 7% per for 6 months |
| Bangkok Dock Co., Ltd. | ,, — | ,, 135 | ,, 125 | 1865 | ,, 1,000,000 | 10,000 | ,, 100 | ,, 950,000 | ,, 220,000 | |
| Siam Steam Packet Co. | ,, — | ,, 57 | Par | 1898 | ,, 190 000 | 3,800 | ,, 50 | ,, 190,000 | ,, 34,000 | 5% |
| Siam Commercial Bank | ,, 1,070 | ,, — | Par | 1906 | ,, 3,000,000 | 3.000 | ,, 1,000 | ,, 3,000.000 | ,, 338,850 | 8% |
| Menam Motor Boat Co. | ,, — | ,, 100 | ,, 100 | 1905 | ,, 200,000 | 2,000 | ,, 100 | ,, 200,000 | — | 6% |
| Transport Co., Motor | ,, — | ,, 90 | ,, 100 | 1906 | ,, 200,000 | 2,000 | ,, 100 | ,, 200,000 | — | — |
| Jenderata Rubber Co.* | ,, — | ,, £8.— | ,, 90 (for six calls) | 1906 | £ 40,000 | 4,000 | £ 10 | £ 7.-paid | — | — |
| Bagan Rubber Co. | ,, — | ,, — | ,, — | 1907 | Tcs. 300,000 | 3,000 | Tcs. 100 | Tcs. 40 per share | — | — |
| Siam Steam Navigation Co., Ltd. | ,, — | ,, — | ,, — | 1909 | ,, 2,000,000 | 10,000 | ,, 200 | — | ,, 10,000 | — |
| Siam Stone Works, Ltd. | ,, — | ,, 90 | 100 | 1909 | ,, 350,000 | 3,500 | ,, 100 | ,, 350,000 | — | 6% half year |
| Kombok Rubber Co. | ,, — | ,, — | 19 | 1906 | $ 300,000 | 30,000 | $ 100 | $7, per Share | — | — |

# PHILIPPINE SHARE REPORT

May 10, 1910

| Name | When Incorporated | Authorized Capital | Issue Value of Share | No. of Shares | Subscribed | Paid up | Reserve | Working % | Date | Last Dividend | Closing Quotations |
|---|---|---|---|---|---|---|---|---|---|---|---|
| American Drug Store............ | 1908 | ₱ 100,000 | ₱1,000 | 100 | 40 | ₱1,000 | ...... | ₱ 5,000 | Jan. 4, 1909.. | .................... | No sellers. |
| *Banco Español Filipino.......... | 1851 | 3,000,000 | 200 | 15,000 | 8,439 | 200 | ₱225,000 | ........ | ............ | 7% for year 1909.... | 200 buyers |
| Benguet Consolidated Mining Co.... | 1903 | 2,000,000 | 2 | 1,000,000 | 495,000 | 2 | ...... | 38,000 | Feb. 2, 1909.. | .................... | ₱1.00. |
| Benguet Commercial Co., Ltd...... | 1908 | 200,000 | 10 | 20,000 | 7,360 | 10 | ...... | ........ | ............ | 7% for year 1907 .... | ₱10. |
| Bua Mining Co.................. | 1905 | 300,000 | 100 | 3,000 | 2,620 | 100 | ...... | 12,900 | Dec. 5 1909. | .................... | ₱100. |
| Cadwallader-Gibson Lumber Co.... | 1908 | 1,000,000 | 100 | 10,000 | 8,650 | 100 | ...... | ........ | ............ | .................... | No sellers |
| *Camote-Clayton Mining Co...... | 1909 | 400,000 | 10 | 40,000 | 20,000 | 10 | ...... | ........ | ............ | .................... | ₱10. |
| *Compania Maritima.............. | ...... | 1,018,000 | 200 | 5,090 | 5,090 | 200 | ...... | ........ | ............ | .................... | ₱50 sales |
| *El Varadero de Manila........... | ...... | 350,000 | 100 | 3,500 | 3.500 | 100 | ...... | ........ | ............ | .................... | Sellers 70 |
| Electrical Supply Co., Inc......... | 1909 | 100,000 | 100 | 11,000 | 500 | 72 | ...... | ........ | ............ | .................... | No sellers |
| Export & Import Lumber Co....... | ...... | 200,000 | 200 | 1,000 | 1,000 | 200 | ...... | ........ | ............ | .................... | No sellers. |
| *Fabrica de Hielo de Manila....... | 1894 | 350,000 | 50 | 7,000 | 7,000 | 50 | ...... | ........ | ............ | 18% for year 1908... | ₱75 sales. |
| *Germinal Cigar Factory.......... | 1900 | 500,000 | 500 | 1,000 | 1,000 | 500 | ₱143,499 | 639.41 | Dec. 31, 1909 | 15% for year 1909 and 6% on capital...... | 500 sellers. |
| H. E. Heacock Co................ | 1909 | 100,000 | 100 | 1,000 | 800 | 100 | ...... | ........ | ............ | First year............ | No sellers. |
| *Headquarters Mining Co. (Inc.)... | 1908 | 600,000 | 10 | 60,000 | 35,000 | 10 | ...... | ........ | ............ | .................... | ₱10 buyers. |
| Insular Lumber Co............... | 1907 | 2,000,000 | 200 | 10,000 | 9,000 | 200 | ...... | ........ | ............ | .................... | No sellers. |
| Juan Seiboth Co., Ltd............ | 1908 | 150,000 | 20 | 7,500 | 500 | 20 | ...... | ........ | ............ | First year............ | ............ |
| *La Concha Button Factory....... | 1905 | 75,000 | 100 | 750 | 750 | 100 | ...... | ........ | ............ | 15% for year 1909... | ₱110 sellers. |
| Lambert, Springer Co............ | 1908 | 200,000 | 1,000 | 200 | 80 | 1,000 | ...... | ........ | ............ | .................... | No sellers. |
| Luzon Stevedoring Co............ | 1909 | 250,000 | 25 | 10,000 | 4,200 | 25 | ...... | ........ | Sept. 15, 1909 | 15%.............. | ₱30. |
| Mindanao Herald Publishing Co... | 1907 | 15.000 | 100 | 150 | 75 | 100 | ...... | ........ | Dec. 31, 1908. | ½ of 1% interim for 1908 | No sellers. |
| Newspaper Publishing Co......... | 1907 | 400,000 | 100 | 4,000 | 3,740 | 100 | ...... | ........ | ............ | .................... | ............ |
| Minas Carbon de Batan........... | 1902 | 1,000,000 | 200 | 5,000 | 1,523 | 200 | ...... | 136,812 | ............ | .................... | 200 |
| Walter E. Olsen Co., Inc.......... | 1909 | 500.000 | 100 | 5,000 | 2,033 | 100 | ...... | ........ | ............ | First year............ | No sellers. |
| Paracale Gold Dredging Co........ | 1907 | £10,000 | £1 | 10,000 | 9,000 | £1 | ...... | ........ | ............ | .................... | No sellers. |
| Palomar Park Amusement Co..... | 1908 | 300,000 | ...... | 300,000 | 60,312 | .50 | ...... | ........ | ............ | .................... | ₱1. |
| Phil. Hemp Machine Co., Ltd...... | 1907 | 1,000,000 | 100 | 10,000 | 8,500 | 100 | ...... | ........ | ............ | .................... | ₱100 |
| Philippine Publishing Co.......... | 1907 | 600,000 | 200 | 3,000 | 2,181 | 200 | ...... | ........ | Mar. 1st, 1909 | ₱3 a share for 1908.. | ₱50 |
| Port Banga Lumber Co........... | 1908 | 100,000 | 100 | 1,000 | 934 | 100 | None. | 40,000 | First Saturday in January.. | None.............. | No sellers. |
| The Philippine Gold Dredging Co... | 1907 | 200,000 | 10 | 20,000 | 20,000 | 10 | ...... | ........ | ............ | .................... | No sellers. |
| *Philippine Co., Ltd............. | ...... | 750,000 | 10 | 7,500 | 7,500 | 10 | ...... | ........ | ............ | .................... | ₱5 buyers. |
| Philippine Rosin & Turpentine Co.. | ...... | 150,000 | 1 | 150,000 | 70,000 | 1 | ...... | ........ | ............ | First year.......... | ............ |
| Philippine Exploration Co........ | 1908 | 2,000,000 | 10 | 200,000 | 90,000 | 10 | ...... | ........ | ............ | .................... | ₱15 buyers |
| The Rosenstock Pub. Co.......... | 1908 | 75,000 | 10 | 7,500 | 6.000 | 10 | ...... | ........ | ............ | .................... | No sellers. |
| *San Nicolas Iron Works......... | ...... | 300,000 | 500 | 600 | 600 | 500 | ...... | ........ | ............ | .................... | ₱200 sellers. |
| San Mauricio Gold Mining Co...... | 1908 | 4,000,000 | 200 | 20,000 | ..... | ....... | ...... |  | ............ | First year.......... | ₱200. |
| Tarlac Railway Co................ | 1906 | 150,000 | 100 | 1,500 | 1,500 | 100 | ...... | ₱23,329 | June 30, 1908. | .................... | No sellers. |
| Union Hemp Machine Co.......... | 1909 | 50,000 | 10 | 5,000 | 2,600 | 10 | ...... | ........ | ............ | .................... | No sellers. |
| Zamboanga Cold Storage Co...... | 1903 | 40,000 | 100 | 400 | 200 | 100 | ₱8,500 | ......... | May 1st, 1909. | 20%.............. | ₱120. |

* John T. Macleod's share list

# PHILIPPINE BONDS

|  | Dated | Authorized | Issued | Outstanding | Par Value | Rate of Int. | When payable | Last Quotation |
|---|---|---|---|---|---|---|---|---|
| Philippine Friar Land Bonds.................. | Feb. 1st, 1904 | $7,000,000 | $7,000,000 | $7,000,000 | $ 100 | 4% | Feb. 1, 1914 | 104[illegible] |
| Public Works and Permanent Improvement Bonds........ | March 1, 1905 | $5,000,000 | $2,500,000 | $2,500,000 | $ 100 | 4% | March 1, 1915 | 104[illegible] |
| Do. ................ | Feb. 1, 1906 | .................. | $1,000,000 | $1,000,000 | $ 100 | 4% | Feb. 1, 1916 | 104[illegible] |
| Manila Sewer and Water Works Improvement Bonds.... | June 1, 1905 | $4,000,000 | $1,000,000 | $1,000,000 | $ 100 | 4% | June 1, 1915 | 104[illegible] |
| Do. ................ | Jan. 2, 1907 | .................. | $2,000,000 | $2,000,000 | $ 100 | 4% | Jan. 2, 1917 | 104[illegible] |
| Philippine Railway First Mortgage Four per cent Thirty Year Sinking Fund Gold Bonds ................ | July 1, 1907 | $15,000,000 | $5,736,000 | $5,736,000 | $1000 | 4% | July 1, 1937 | 97 |

*Payment of interest guaranteed until maturity or redemption by the Philippine Government.

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| Astor House Hotel Co. | Cover |
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| Baldwin Locomotive Works | 33 |
| Banco Español Filipino | Cover |
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| Bohler Bros & Co. | 35 |
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| British American Tobacco Co., Ltd. | 36 |
| Cadwallader-Gibson Lumber Co. | 23 |
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| Carmichael & Clarke | 10 |
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| Chinese Eng. & Mining Co. | 4 |
| Chinese Eastern Railway | 37 |
| Cia. General de Tabacos Filipinas. | 48 |
| Cia. Trasatlantica | 48 |
| Clarke, M. A | 42 |
| Cook's Sons, Adam | 49 |
| Defiance Machine Works | 20 |
| Deutsch-Asiatische Bank | 34 |
| Dickeson, Jones & Co. | 41 |
| Dollar, Robert & Co | 57 |
| Earnshaw, M & Co., Inc | 7 |
| East Asiatic Dredging Co. | 27 |
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| Fearon, Daniel & Co | 13-30 |
| Fairbanks Morse & Co | 57 |
| Fox Typewriter | 33 |
| Fushun Coal | 3 |
| Gardner Governor Co. | 32 |
| Gas Engine & Power Co. and Charles L. Seabury & Co. Consolidated | 56 |
| General Electric Co. | 20 |
| Germann & Co., Ltd | 28 |
| Germinal Cigar Factory | 36 |
| Gordon & Co | 45 |
| Grand Rapids Gas Engine & Yacht Co. | 32 |
| Green Island Cement Co., Ltd. | 38 |
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| International Cold Stores, Ltd | 29 |
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| Kawasaki Dockyard Co. Ltd | 7 |
| Kiangnan Dock & Engineering Works | 8 |
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| Lodge & Shipley Machine Tool Co. | 27 |
| Malthoid | 58 |
| Melchers & Co. | 52 |
| McGregor, Samuel & Co. | 55 |
| Mitsu Bishi Dockyard & Eng. Works | 6 |
| Mitsui Bussan Kaisha | 5 |
| Morse & Son, A. J | 586 |
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| Nicholson, C. S | 34 |
| North British Locomotive Co. Ltd. | 47 |
| Olsen & Co., Walter E | Cover |
| Pacific Mail S. S. Co | 29 |
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| Paraffine Paint Co. | 58 |
| Penberthy Injector Co. | 32 |
| Philippine Islands | 2 |
| Pickett Harness Co | 34 |
| Port Banga Lumber Co. | 24 |
| Racine, Ackermann & Co. | 39 |
| Remington Typewriter Co. | 35 |
| Rose, Downs & Thompson, Ltd | 44 |
| San Miguel Brewery | 45 |
| Santa Mesa Rope Works | 13 |
| Schuchardt & Schütte, Berlin | 53 |
| Shanghai Dock & Eng. Co., Ltd | 12 |
| Shanghai Electric and Asbestos Co., Ltd | 44 |
| Shanghai Gas Co., Ltd | 28 |
| Shanghai Nanking Railway | 15 |
| Shanghai Machine Co. | 26 |
| Shanghai Waterworks Co. Ltd. | 50 |
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| Siemssen & Co | 22 |
| Southern Pacific Co | 23 |
| South Manchuria Railway Mining Dept. | 3 |
| South Manchuria Railway | 14 |
| Stevenson & Co., Ltd., W. F | 10 |
| Strong, Frank L. | 43 |
| Swift & Co | 32 |
| Taikoo Dockyard and Engineering Company of Hongkong, Ltd. | 9 |
| Thompson F. H | 49 |
| Toyo Kisen Kaisha | 29 |
| Truscott Boat Mfg. Co | 50 |
| Trussed Concrete Steel Co | 33 |
| United States Steel Products Export Co | 16 |
| Vander Loo & Co. F. A. | 51 |
| Victorian Government Agency | 1 |
| Vulcan Iron Works | 32 |
| Vulcan Iron Works Ltd | 13 |
| Warner Barnes & Co., Ltd | 21 |
| Wen Ming Press | 49 |
| White & Co. (Inc.), J. G | 53 |
| Westinghouse Brake Co., Ltd | 53 |
| Wood Waste Distilleries Co. | 29 |
| Woosung Car Shops | 51 |
| Worthington, Henry R. | 20 |
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- Occidental and Oriental S. S. Co.
- Pacific Mail S. S. Co.
- Toyo Kisen Kaisha S. S. Co.
- Transatlantica S. S. Co.
- Ynchausti & Co.

**STEEL MANUFACTURERS**
- United States Steel Products Export Co.

**STEEL WORKS**
- Bohler Bros. & Co.

**STRUCTURAL STEEL**
- Bohler Bros. & Co.
- A. Gulf & Pacific Co.

**TANKS**
- Atlantic, Gulf & Pacific Co.
- Pacific Tank and Pipe Co.
- Shanghai Dock & Engineering Co., Ltd.

**TILES AND BRICKS**
- Green Island Cement Co., Ltd.
- Chinese Eng. Mining Co.

**TOBACCO DEALERS**
- British American Tobacco Co., Ltd
- Cia. General de Tabacos
- Olsen & Co., Walter E.

**TOOLS**
- Lodge & Shipley Machine Tool Co.
- Shanghai Machine Co.
- Lambert-Springer Co.

**TYPEWRITERS**
- The Fox Typewriter
- Remington Typewriter Co.

**WINDMILLS**
- Fairbanks, Morse & Co.

**WOOD WORKING**
- Defiance Machine Works.

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